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THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY:

EDITED BY

DANIEL DRAKE, M.D.,

AND

LUNSFORD P. YANDELL, M.D.,

PROFESSORS IN THE LOUISVILLE MEDICAL INSTITUTE.

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Robert S. Wendel,	Tennessee,	Prof. Yandell, M. D.
Hugh H Young,	Kentucky.	

In addition to the above catalogue, two practitioners, one from Kentucky and the other from Indiana, were regularly matriculated; but being able to attend the Lectures only a short time, their names have been omitted.

RECAPITULATION.

1.	From Kentucky,	67
2.	" Tennessee,	48
3.	" Alabama,	24
4.	" Indiana,	18
5.	" Mississippi,	15
6.	" Illinois,	9
7	" Missouri,	7
8.	" Ohio,	7
9.	" Virginia,	3
10.	" Louisiana,	1
11.	" Georgia,	1
12.	" South Carolina,	1
13.	" North Carolina,	1
14.	" District Columbia,	1
15.	" England,	1
	Total,	204

RATIO OF INCREASE.

Number of the Class,	first session, 1837—'8,	80
	Second session, 1838—'9,	120
	Third session, 1839—'40,	204

MEDICAL GRADUATES.

At a public Commencement, held in the Fourth Street Methodist Episcopal Church, on Tuesday evening the 10th of March, 1840, the Degree of *Doctor of Medicine* was conferred upon the following gentlemen, who had undergone satisfactory private and public examinations, and submitted approved Theses on the subjects annexed to their names.

1. David J. Alcorn, of Kentucky. Thesis on Cynanche Trachealis.
2. John L. Armington, of Indiana; on Delirium Temens.
3. Charles W. Baker, of Missouri; on Intermitting Fever.
4. Leroy K. Branch, of Mississippi; on Congestive Bilious Fever.
5. Francis B. E. Brown, of Alabama; on Cynanche Trachealis.
6. Preston Capshaw, of Alabama; on the Fever which occurred on Elk River, Ala., during the summer and fall of 1839.
7. James H. Charlton, of Tennessee; on Abnormal Enlargements of the Uterus.
8. James M. Cromley, of Ohio; on Mania a Potu.
9. John. W. Fraser, of Tennessee; on the Physiology and Pathology of the Liver.
10. Norvin Green, of Kentucky; on Menstruation.
11. William B. Hall, of East Tennessee; on the Fevers which prevailed in some parts of East and Middle Tennessee, during the years 1838–'39.
12. Samuel Haynes, of Kentucky; on Milk-Sickness, as it occurs in the counties of Daviess, Ohio and Breckenridge, Ky.
13. John B. Henderson, of Mississippi; on Cinchona.
14. Alfred Hurst, of Kentucky; on Inflammation.
15. Zophar Jayne, of Illinois, on the radical cure of reducible Hernia.
16. Samuel D. Kennedy, of Mississippi, on Hysteritis.
17. Peyton M. Keith, of Kentucky; on Phlegmasia Dolens.
18. Laban E. Laird, of Mississippi; on Congestive Fever.

19. James Maxwell, Jr., of Mississippi; on the Topography and Climate of portions of Mississippi, Louisiana, and Arkansas, in Connexion with some of their Diseases.

20. Felix McFarland, of Tennessee; on Milk Sickness.

21. Andrew Moore, of Alabama; On Psoas Abscess.

22. Wade A. Morris, of Tennessee; on Congestive Fever.

23. Benjamin F. Newsum, of Alabama; on Bilious Remittent and Congestive Fever, as it occurs in the Tennessee valley.

24. Robertus C. Phillips, of Kentucky; on the Epidemic Fever which succeeded the Cholera, in the West of Kentucky, in the years 1833–'34.

25. William Powell, of Mississippi; on Oblique Inguinal Hernia.

26. Samuel B. Robison, of Tennessee; on Inflammation.

27. David C. Ross, of Alabama; on Puerperal Peritonitis.

28. John D. Sale, of Alabama; On Gastritis.

29 S. Oglesby Scruggs, of Alabama, on Malaria or Marsh Miasmata.

30. Granville P. Smith, of Tennessee; on the Qualifications of the Physician.

31. Richard G. Stockton, of Kentucky; on Syphiloid Affections.

32. Hiram B. Stubblefield, of Tennessee; on Nutrition.

33. Nimrod W. Thompson, of Tennessee; on Sympathy.

34. John Truman, of Ohio; On Lithotrity.

35. Tunstall Q. Walker, of Kentucky; on Puerperal Fever.

36. Edwin H. Watts, of Alabama; on Bilious Remittent Fever.

37. Thomas A. Webster, of Kentucky; on Puerperal Fever.

38. George W. White, of Tennessee; on the Pulse.

39. Ezekiel F. Wilson, of Kentucky; on the Bandage.

C. W. SHORT, M. D., *Dean.*

ADDRESS ON COMMENCEMENT DAY.

After the degree of *Doctor of Medicine* was conferred by the Hon. JOHN ROWAN, *President of the Board of Managers*, who gave to the Graduates a few words of impressive exhortation, Prof. DRAKE, by appointment of the FACULTY, proceeded to deliver a more extended DOCTORATE ADDRESS. As the INSTITUTE was founded and liberally endowed by the people of LOUISVILLE, the exordium of this discourse was directed to them; and as it shows the progress and prospects of the INSTITUTE the FACULTY have determined to attach it to the Catalogue.

CITIZENS OF LOUISVILLE! Our English ancestors indulged themselves in a yearly festival, called *Harvest-home*. You have been invited this evening to "a harvest-home" of your Medical Institute—to the third annual return of the husbandmen, to whom in 1837, you confided the cultivation of the field, which you then enclosed and planted. The first year it yielded 24 ripened sheaves, the second 27, the third 39, which are now in shock before you. This increase is encouraging, but that of the plantings has been still greater. The first session your laborers cultivated 80, the second 120, the third and last 204.

It is not exactly known, how many students of medicine were in attendance the past winter, in all the schools of the Union, but according to professor Beck's statistics, the average, for the seven years preceding the last, was 2,300—for the latter three of that term 2,360. We may admit an increase of 90 for the session now closed, and assume 2,450 as the aggregate in attendance last winter. Now a twelfth part of this number,—of all the students who attended lectures in the United States last winter, prosecuted their studies in Louisville, where not one was educated by lectures three years ago; but those who resided there, went to other cities for that purpose.

What is the number of our rival schools? Twenty-four:—and if the whole number of pupils, 2,350, had been divided equally, each would have had but 98. It appears then, that your institution has had more than double her equal share—that is 204, instead of 98. Is it the greater age of the Institute which has drawn to it twice the number she would have had under an agrarian distribution? Certainly not:—for of 24 rivals, but three were younger than herself, while 21 were older.

What is her relative rank among these competing institutions? The University of Pennsylvania, as heretofore, stands first, Transylvania second, the Medical Institute of Louisville third! Yes, citizens of Louisville, you have founded and endowed a school which, in less than three years, has outstripped 19 older establishments, becoming the third in America, and would have been the second, if that second had not, also, been a Kentucky school! The two schools of this State have, together, 460. It is, in medical education, the second State of the Union:—The Keystone State, with her three schools, has but 200 more, the Empire State, with her four, is much behind, and the Ancient Dominion, with her two, is so far in the rear, that it would be disrespectful in her daughter to mention the distance.

The growth of your Institute is, indeed, without precedent. In the third session up to 204! Why, it was 20 years before the University of Pennsylvania attained to that number; 20 before the Fairfield school, in

the State of New York, arrived at it but to fall, in a short time, far below; almost as long before the University of Maryland reached it, and then could not maintain the elevation; nine years before the Jefferson College attained it, since which she has sunk far below; and seven years before it was reached by Transylvania University. None of the other schools of the Union ever attained that number—but few of them are now increasing, and several are on the decline.

To what should this unanticipated and cheering growth be ascribed? I would answer, first, to the geographical position of Louisville, one of the most eligible in the United States for this object; second, to the important advantages afforded by her hospital; third, to the enlightened policy of her citizens, in their corporate capacity, making the appropriations necessary to bring her natural advantages into requisition; fourth, to the discontinuance of the Medical department of the Cincinnati College. Last year, 1838—'39, the two schools in Cincinnati had 216 students, and Louisville 120—difference nearly 100 in favor of Cincinnati; this year Louisville has 204, and Cincinnati, by report, (for no Catalogue has been published) about half that number. It will be the *fault* of Louisville if she do not, for an indefinite time, keep a head of Cincinnati. Neither city, however, should strive to keep the other back, but each should aim to advance itself in honorable rivalship.

Can Louisville hope to overtake Lexington, the *ancient* seat of Western Medical education? In the first session of your school, the difference between it and Transylvania, was 147 in favor of the latter—in the second session it was 91, reduced 56—in the third and last, it was 52, reduced 39. Thus nearly two-thirds of the original difference has been already sunk. Now, Transylvania has never risen higher than 281, and her average for the last 15 years is 228. In the last session she was 28 above this average, and within 25 of her maximum in 1825, when there was but little competition in the West. Her condition, then, would seem to be *conservative*, while that of your institution is *progressive*. If this be true, you may hope ere long to see *your* school the second in the Union.

It must have been under the influence of this hope, that the Institute was founded. A lower expectation could not, ought not to have brought out from the treasury of the city, the noble appropriation on which it rests. Some schools are provincial,—in their advantages limited—in attractions feeble—in fame local. Such is not the destiny which, from the hour of its birth, the auspices have pronounced for the Institute. Over the entire West the profession, *una voce*, have predicted its future eminence. Although bearing its mother's name, it is not a school for the city and neighborhood, nor even for the State, from which its corporate powers are derived. Thirteen other States—half the Union—have already become tributary to its growth; and the tongue of prophecy, in language not to be misunderstood, has pronounced that, guided by wisdom and impelled with energy, it will rapidly expand into a *national* Seminary; in which the various branches of a profound and liberal medical education, will be taught as efficiently as in the oldest Universities of Europe.

Founders of the Institute! In the midst of this feasting and exultation of the soul, I see a "hand writing on the wall!" True—it is not *mene mene tekel*, but if suffered to appear and pass away unheeded, that appalling inscription may at last take its place. I hope it is seen by every one—"Let him that thinketh he standeth, take heed lest he fall! If this be not a sentence of *premonition*, it is at least a precept of *admonition:* a portion of the wisdom which cometh from above; and was never yet disregarded by mortal man, with impunity. You may ask, what can

we do to avert disaster and promote the growth of the Institute? The answer is at hand. Regard it as your daughter, and watch over it with the love and vigilance, which you extend to children when they commence life around you. You did not bring it into existence to create offices for favorites, but to benefit the city, the profession and society at large. Identify yourselves, then, with its dearest interests, and *resolve* that it shall rise into distinction. The influence of an enlightened public opinion alone, can be relied on to keep it in health and vigor. Such an opinion will act with power on managers, professors and pupils, all of whom, in their respective spheres, must do their duty, or it will not enjoy permanent prosperity.

My impression is, that its growth has been *dangerously* rapid, especially within the past year; and that extraordinary efforts will be necessary to carry it, in the fourth session, beyond what it was in the third. I am happy to know, that the Managers and Faculty are alive to this danger, and bent on doing all that may be in their power to maintain the continued advancement of the school. On the suggestion of the latter, the former have resolved to purchase the valuable anatomical museum of professor Cobb; they have also, determined to expend the residue of the fund put at their disposal by the city, in the purchase of books and apparatus, and have appointed, as their agent, the learned professor who stands before the community as the founder of the school.*

The Faculty, on their part, have founded a Cabinet of Pathological Anatomy, designed to illustrate the various forms of disease; they have established a monthly journal of Medicine and Surgery, by which they will make themselves better known throughout the West and South, while it will contribute, to carry from *Louisville*, the discoveries and improvements of the day, to many remote physicians who might not otherwise become acquainted with them; finally, regarding the Hospital as the right arm of the Institute, they have, with the sanction of the Mayor and Council, determined to build, at their own expense, an operating and lecture room, for clinical instruction.

All this, and all that had been previously done by the city, the Managers and the Faculty, is as it should be—nothing snperfluous, nothing ostentatious, nothing, indeed, not indispensable to full and efficient courses of instruction. But at last, it is not edifices, and apparatus and hospitals; nor advertisements, nor the boastings of vain-glorious Commencement-speeches, that build up great schools of medicine; *but the men who administer in them as professors.* The students of all the isles of ancient Greece assembled around Hippocrates; the greatest medical school of Europe, 160 years ago, was in the little Dutch city of Leyden, because that was the residence of Boerhaave — who drew to his lectures even Peter the Great of Russia; afterwards Gottingen, in one of the petty principalities of Germany, was made a centre of attraction by Haller; while Monroe, by the fame of his teachings, collected upon the bleak and barren rock of Edinburg, a large portion of the pupils of every part of the British Empire. In our own country, the genius of Shippen and Rush gave impulse and character to the University of Pennsylvania, while they and their distinguished colleagues, still lectured and demonstrated, in private houses; the largest class which Transylvania ever had, assembled in the bar and ball-rooms of a deserted tavern; and she is

* Indisposition at the proper time of departure prevented Dr. Caldwell from going, but the importation will be made in a different mode, by the opening of the next session.

now upheld, in her acknowledged respectability, in no small degree, by the reputation of one of her professors.

It is mind, then, and not matter, on which the chief reliance must be placed. The genius, learning, energy, address and didactic eloquence of the professors, are the true and universal elements of success: *with them* no school can be kept back—*without them* no school can be put forward. Of what value are the sinewy warhorse instinct of blood, and the tough shield and glittering spear, if the rider be ignorant and clumsy? It was not the number and speed of his ships, both insignificant, that enabled Columbus to pass over the Atlantic Ocean—till then the "valley and shadow of death" to all civilized nations—and to plant her standard on the shores of a new, I would say (not irreverently) "a better world." Without *such* a commander, that fleet of discovery might have equalled in number and equipment, the "invincible armada," with which Philip of Spain invaded England, and yet the results have been equally inglorious. Some of the most brilliant discoveries of modern Chemistry, were made by Dr. Priestley, with a little piece of apparatus placed on one of the window sills of his parlour; and the inventor of French porcelain was so badly supplied with means, that he broke up his last bedstead, and used it for fuel in the prosecution of his experiments.

Intellect is to a school of science what the principle of gravitation is in the solar system, an attracting and regulating power;—what the sun, in spring time, is to the earth and air and streams, which it warms and adorns with countless forms of life and beauty. Deeply impressed with these truths, the professors realize that a precious trust has been confided to them; and so far from relaxing, in consequence of their great success, they feel and admit an absolute necessity for redoubled diligence, and will aim, by efforts the most untiring, and a devotion the most intense, to promote the continued advancement of the INSTITUTE.

FOURTH SESSION OF THE MEDICAL INSTITUTE OF LOUISVILLE.

The President and Managers of the *Medical Institute of Louisville* have the satisfaction of announcing to the public the continued growth of the school committed to their guardianship.

The magnificent edifice, erected by the liberality of the people of Louisville, and pronounced by many medical travellers one of the most excellent in the United States, is now completely finished and furnished. Of its twenty apartments, three are lecture rooms, each capacious enough to seat 4 or 500 pupils.

Since the last session, the Managers have purchased the valuable Anatomical Museum of Prof. Cobb, and added to it a number of new and rare specimens from Europe. A Cabinet of Pathological Anatomy has been founded. The collection of models, instruments, *appareil* and apparatus in Surgery and Obstetrics, is unusually extensive and complete. The Chemical apparatus has been augmented, since the last session, by the arrival of new purchases from Europe; and important additions have, also, been made to the Library from the same source. The Cabinet of Materia Medica and Medical Botany is one of the most complete in the whole country. In short, the Managers do not hesitate to say that the most ample means of instruction have been provided for every department of the school.

The Louisville Marine Hospital affords to the Professors of Clinical

Medicine, Pathological Anatomy and Surgery, the means of enriching their lectures with numerous practical facts. The students spend six hours a week in its wards.

The chair of Surgery, vacated by the resignation of Dr. Flint, has been filled by the appointment of Dr. S. D. Gross, late professor in the Medical Department of the Cincinnati College. Dr. Gross is widely and advantageously known, as a writer on Surgery and Pathological Anatomy; is in extensive practice, and has proved himself an able and acceptable teacher; the Managers therefore have full confidence, that he will amply satisfy the expectations of all who may enrol themselves as pupils of the school. His very valuable collection of morbid specimens, the basis of his late and popular work on the *Elements of Pathological Anatomy*, will enable him to illustrate his lectures in the most instructive manner.

The candidate for the degree of Doctor of Medicine must have attained the age of 21 years, and be of good moral character; must have been engaged in the study of medicine at least two years; and have attended two full courses in some respectable medical school, the last of which in this;—provided, however, that four years' reputable practice will be received in lieu of the first course of lectures. The candidate must, also, pass satisfactory private and public examinations, and write and submit to the Faculty an acceptable Thesis, on some subject relating to Medicine, in the English, French or Latin language.

By order of the Managers.

JOHN ROWAN, *President, &c.*

MISCELLANEOUS NOTICES.

New Charter.—The last session of our Legislature gave to the Medical Institute of Louisville, a new charter, in which the power to confer the degree of *Doctor of Medicine* (previously exercised under a sound construction of the law of 1835) was given in express terms.

Professor of Surgery. For the information of distant students, the Faculty think it proper to extend a little, what the Managers have said of the newly appointed Professor of Surgery, Dr. Gross. This gentleman commenced his career as a public teacher in 1833, when he was invited by Dr. Eberle from Pennsylvania to take the office of *Demonstrator of Anatomy*, in the Medical College of Ohio. His accurate knowledge of the science, his skill in dissection, and his facility in lecturing, gave him immediate reputation; and, in 1835, when the Medical Department of the Cincinnati College was instituted he was unanimously appointed professor of *General and Pathological Anatomy, Physiology and Medical Jurisprudence*, which chair he filled, with distinguished success, till the departmet was suspended in 1839.

Dr. Gross entered on the duties of the profession, as a surgeon and physician in 1828, and has for some time been in extensive practice; but in the midst of professional duties, in the comparative short period of twelve years, he has been enabled to prepare for publication the following works; many of which have been widely circulated among the profession.

Translations.

1. *A Manual of General and Pathological Anatomy.* From the French of A. L. J. Bayle & H. Hollard. Philadelphia: 1828.

2. *A Manual af Obstetrics.* From the French of Julius Hatin. Philadelphia: 1828.

3. *A Treatise on Contagious Typhus.* From the German of J. Val. De Hildenbrand. New York: 1829.

4. *Elements of Operative Surgery.* From the French of A. Tavernier. Philadelphia: 1829.

ORIGINAL WORKS.

1. *The Anatomy, Physiology and Diseases of the Bones and Joints.* Philadelphia: 1830.

2. *Elements of Pathological Anatomy,* in 2 vols. Boston, 1839.

The last work, although not published till near the end of the year 1839, has already been made a text book in four Medical schools. It may be said to embrace the *Institutes of Surgery.*

In addition to these different works, Prof. Gross is the author of several papers in the journals of the day, one of which is an original inqniry into the signs and morbid appearances, in cases of death from *manual strangulation.*

MEDICAL INSTITUTE OF LOUISVILLE.

The Lectures in this institution will commence on the first Monday in November, and terminate on the first of March, when instruction will be given on the following branches, viz:

Anatomy,	by *Dr. Cobb.*
Institutes of Medicine and Medical Jurisprudence,	by *Dr. Caldwell.*
Theory and Practice of Medicine,	by *Dr. Cooke.*
Surgery,	by *Dr. Gross.*
Obstetrics and the Diseases of Women and Children,	by *Dr. Miller.*
Materia Medica and Medical Botany,	by *Dr. Short.*
Chemistry and Pharmacy,	by *Dr. Yandell.*
Clinical Medicine and Pathological Anatomy,	by *Dr. Drake.*

The fee for each ticket is $15, in payment of which the paper of good and solvent Banks of the States in which the pupils respectively reside, will be received at par. The Matriculation fee, which is $5, and the Graduation fee, which is $20, must be paid in funds equal to the paper of Kentucky. The Dissecting ticket is $10, which students may take or decline at their option, but on account of the utility of dissections, and the uncommon facilities afforded for their prosecution in this city, the Faculty recommend all pupils to avail themselves of it, at least during one of their courses.

Comfortable boarding, including fuel and lights, in respectable families, may be procured at from $3 to $4 per week.

By order of the Faculty.

C. W. SHORT, M. D., *Dean.*

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

JANUARY, 1840.

ART. 1.—*An inquiry into some of the causes of the Mortality of Infants.* By HENRY MILLER, M. D.

AMONG the many disclosures of medical statistics, which serve to enlighten us in relation to all that can affect health and longevity, none stands out more prominently than the *precariousness of life in the earlier periods of our existence.* Life, at best but brief and in all its stages environed by causes inimical to its continuance, is then peculiarly threatened with extinction. From a comparison of the most accurate obituary registers, it may be deduced that the deaths of children under a year old, constitute about a fifth of the whole number oocurring for a series of years. In Paris, for example, during the year 1818, the number of deaths was

22,421, whereof 3,942 or 17 per cent. were under the age of one year:—the deaths in Philadelphia during a period of twenty years, include rather a larger proportion of infants than the average assumed; in New York, according to the tables compiled by Dr. Lee,* embracing a period of sixteen years, twenty-five per cent., or one fourth the whole number of deaths were children under one year—the total number of deaths being 83,783, of which 21,330 were infants. The ratio of children decreases after the first year, being but 7,866 in New York, from one to two years; 6,787 only from two to five years; and it is remarkable how much greater risk to life the first than the second five years involve; thus, of the 83,783 comprised in these tables, 35,983 were children under five years, while only 2,232 were between five and ten years old.

But it is foreign to my design to enter into statistical details any farther than to establish the fact, that a proportionally larger number of children die within the first year than adults, and *an inquiry into some of the causes of this greater mortality, it is hoped, will be not without interest and practical utility.*

It is too obvious to need particular remark, that one cause of the greater mortality of children is their exposedness to certain diseases which, whether issuing from Pandora's box or not, are dispersed over the world, and may be said, almost without a figure, to guard the avenues to life. These diseases, not excepting croup and hooping-cough, often prevail epidemically, and carry off multitudes of children. Between some of them and the infantile constitution there is a particular affinity, adults being but seldom affected by them.

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*American Journal of Medical Sciences, No. xxxvii.

Others, especially the Exanthemata, small-pox, measels, scarlet fever, &c., are not so exclusive in the selection of their subjects; but never wholly extinct, and often raging as epidemics, children are more apt to be assailed by them, because the constitution is not generally susceptible of a second attack, and but few have been ushered into manhood without having run their gantlet. But there are sources of disease to children, that are connate and do not adhere to them when grown up, which it most concerns us to investigate, and the first of these deserving attention, is a physiological peculiarity that is strongly stamped on their constitution, viz.: *Their excitability or vitality, in all the tissues and organs which it pervades, is more vivacious but less energetic than that of adults.* In confirmation of this we may refer to the manner in which some of their most important vital actions are performed. *The contractions of the heart* are much more rapid, the pulse of the infant being nearly double in frequency that of the adult, varying from 120 to 140 beats in a minute: at the same time it is evident that the pulsations are not so strong and the blood is not sent out in as bold a current in the vessels through which it circulates. Indeed, it is plain that the increased frequency is a compensation for deficient force, as the pulse of adults, who are suffering from debility, becomes frequent when it loses strength and volume. *Respiration* is carried on with greater rapidity, the inspirations numbering from 35 to 40 in the minute or nearly double those of the healthy adult; and yet, notwithstanding this activity of the respiratory process, the infant consumes less oxygen, showing that the function is less efficiently performed. *The calorific function*, as it may with propriety be called, although no special organ be allotted to it, is less energetic,—as has been proved by Dr. Edwards, who found that the

young of warm-blooded animals, selected for his experiments, have a temperature less than their parents, even when best protected from external cold, and that when they are removed and kept an hour or two from the mother, in an atmosphere of 50° to 68° Fahr., their temperature falls considerably and continues falling, until in the course of three or four hours, it stops a very few degrees above that of the surrounding air. Under similar exposure adult animals sustained but a slight reduction of temperature, their power of generating heat and resisting cold existing and being exerted in full vigour. The same experimenter, also, found that the capability of supporting reductions of temperature in the young of warm-blooded animals is inversely in proportion to their power of producing heat, and that consequently of two animals of the same species, the young will suffer less and recover more perfectly from the same degree of cold,—proving the greater resiliency of their vital power, or in other words, greater vivacity of excitability, which responds more readily to the counteractives of cold when judiciously applied.

These facts abundantly establish the vital or physiological peculiarity, which we have claimed for infants, and prepare us to appreciate its morbid tendencies. The excitability of the infantile system being greater, it results that stimulants or sedatives, all the modifiers to which it can be exposed and consequently all morbid causes, must, *cæteris paribus*, produce a more considerable effect on it than on that of the adult. The susceptibility of infants to cold alone is a very fruitful source of disease, which has been particularly pointed out by the experimental author, already quoted. "If the attentions which children require in climates and seasons little favorable to the preservation of their existence," says he, "were generally understood and put in practice, it would considera-

bly reduce one of the most powerful sources of mortality affecting that age in our climate. It is not confined to children whom the misery of their parents cannot guard from the rigour of the weather, but it operates to a great extent without being either perceived or suspected, in families enjoying affluence, and in which it is believed that the necessary cautions are taken, because cold being relative, it is difficult from our own feelings to judge of its effects on others, and because it does not always manifest itself by determinate and uniform sensations. They do not feel the cold, but they have an uneasiness or an indisposition which arises from it; their constitution becomes deteriorated by passing through the alternations of health and disease, and they sink under the action of an unknown cause."* In the management of children, a practice directly opposed to that which these observations suggest, finds favor with some, whose example, from their rank and intelligence, must exert a pernicious influence. By them it is contended that warm clothing only induces delicacy and greater sensibility to cold, diminishes the capability of resistance when unavoidably subjected to it, and that, therefore, the best fortification is exposure by times to its influence. There can be no doubt that many children fall victims to this hardening system, and that while some of iron constitution may emerge from the ordeal with increased robustness, many more have the foundation laid for disease which adheres to them for life. With all the precautions which philosophy can prescribe and maternal solicitude put in requisition, cold will claim its full proportion of mortality.

What has been said in relation to cold is equally true of excessive heat and of all morbific causes;—They more easily

*Edwards, on the Influence of Physical Agents, &c.

and seriously affect infants than adults, and it would seem from the most careful pathological researches, that infants are peculiarly obnoxious to inflammatory diseases, when even only a few days old, which may be referred to the same productive source, viz: their more lively excitability, and feebler power of resistance. This vital peculiarity may be regarded as a *general* predisposition to disease, which may remain innocuous if care be taken to guard against the application of exciting causes; but there are *special* predispositions which oftentimes bid defiance to all the vigilance and resources of art, and these may be said to consist in *the incompleteness of organic development at birth, and the necessarily progressive establishment of the circle of functions essential to the perfection of adult life.* To illustrate the extent and importance of this physiological law, and the morbid tendencies inseparable from it, will occupy the remainder of this essay. Before entering on this investigation, it is proper to advert briefly to a phenomenon observed in all the organs of the animal economy, when engaged in the healthy exercise of their functions, viz: they attract the fluids or movable organic matter towards them, and a larger amount of blood is circulated through them than in their quiescent state; in other words they become the seat of sanguineous congestion. This more profuse supply of fluids is the consequent of the increased movements of contractility, which the performance of all the vital functions requires, and the presence of the appropriate stimulus never fails to produce, at least in the healthy state. Hence, this fundamental vital law, on account of its constancy, has given rise to the axiom *uibi stimulus, ibi fluxus.* During the continuance of this physiological congestion the density and volume of the part are increased, and its frequent recurrence contributes to animal growth and vigor. Thus the muscles of locomotion

are augmented in size and acquire firmness by exercise, and become atrophied by being kept in a state of immobility, as in paralysis, where nervous stimulation is intercepted, or in fractures or painful chronic affections, where their motion is impracticable or would aggravate pain. In the next place, it must be observed that this exaggeration of the vital properties of a part, if it exceed certain limits, produces disease, and that the transition from congestion to inflammation is neither abrupt nor difficult. It is on this account that the highest degree of health, when all the functions are performed with an activity that diffuses a joyous sense of well-being over the economy, sometimes portends disease. If the locomotive muscles, for example, are too severely tasked, the congestion becomes fixed, and hence the soreness and stiffness which are complained of after inordinate or prolonged exertion, and we are told that it is not unusual for the muscles of the thighs of soldiers, after forced marches, to become painful and produce a chill and fever—to inflame and suppurate as after the most violent attacks of rheumatism.* Having premised these general observations we proceed to seek for sources of infantile disease, first, *in the establishment of the respiratory function.*

The first and most urgent want which the infant experiences is atmospheric air, without which its existence cannot be prolonged beyond a few minutes: and consequently pulmonary respiration is the first of the functions, progressively established, which is called into exercise. The development of the lungs is complete at birth, and so likewise is the pulmonary artery, destined to convey to them venous blood for its conversion into arterial; but the revivification of the blood having hitherto been effected by another provision, the lungs

*Broussais' Physiology.

existed in a collapsed state and the main current of the blood was turned from them by temporary channels. The fetal provision being abolished, it is indispensable that pulmonary respiration be promptly established; but this may be impeded by many causes, and hence *asphyxia neonatorum* comes in for a large share of the mortality of infants. In New York, the number of deaths from this cause, or *still-born*, in sixteen years, was 4,793, being in the ratio of one to twenty of the whole number, and one to four and a half of such as died within the first year.

In pursuing the diseases which threaten the existence of infants through this function, it must be observed that even if respiration be established, the lungs are peculiarly liable to congestion, producing either simple engorgement or extravasation into their tissue. Recent researches, particularly at the Foundling Hospital of Paris, have proved the frequency of this morbid state, and that pulmonary apoplexy, as extravasation is termed, is a much more common occurrence in children than adults. Nor is it diffiuclt to account for the increased liability of new born infants to pulmonary congestion; it is, as we may fairly presume, only an excess of the normal congestion existing in all organs during the active performance of their functions, induced the more easily, if it may be so expressed, in consequence of the raw and undisciplined state of the lungs at this period;—the stimulation and expansion of the lungs invite the afflux of blood into their tissue, the vessels of which are less able to bear the sudden inundation because their contractility has not acquired strength by exercise.

Inflammation of the lungs is not an unusual sequence of these congestions, and at this period it differs from the same disease in adults in being strictly confined to the lungs, with-

out extending to the pleura, as very generally happens at a more advanced period of life. What renders it probable that pneumonia in very young infants is purely the consequent of congestion, is the ascertained fact, that the most usual seat of the latter is that also of the former. The right lung, for example, is much more frequently congested than the left, owing to the common custom of placing children on the right side, and the posterior portion of the lungs than the anterior, from the operation of the same mechanical cause, and these, too, are the usual seats of inflammation. These pneumonias terminate in hepatization, suppuration, or softening, by which the lungs are disorganized and rendered unfit for the support of life. At a somewhat more advanced age, but still within the year, infants may be attacked by pneumonia from the same causes as adults, particularly from atmospherical vicissitudes, and Billard* believes that *shortness of breath, asthma, idiopathic coughs*, which some young persons have from their earliest recollection, are often the results of these early pneumonias. Infants are much more liable to pleurisy than is commonly supposed, and in Foundling Hospitals cases of this disease frequently occur at the most tender age, when children are exposed to the weather in the *creche* appropriated for their reception. When best provided for they are often the victims of this disease, as might have been inferred from their special susceptibility to cold, its most usual exciting cause.

The mucous membrane lining the air passages is always more or less congested in early infancy, as is clearly evinced from its redness, thickening and irritability, visible at their outlets and traceable throughout their whole extent in post

*Traite des Maladies des Enfans nouveau-nes et a la Mamelle.

mortem examinations. This is no more than might have been predicted from the stimulation of the first contact of air with such a sensitive surface. Here, also, in a particular manner, congestion lays the foundation for inflammatory affections, and hence the frequency of coryza, angina, and bronchitis in infants. On account of the great vascularity and sensitiveness of this membrane, or from some more latent and unexplained peculiarity, children are subject to a form of inflammatory action, which differs greatly in its character and fatal results from ordinary inflammation affecting adults, which M. Bretonneau proposes to distinguish from its congeners by the significant appellation of *diptheritis.* In this disease, to which the genuine croup belongs, the secretions poured out by the inflamed surface concrete into a membrane that contracts an intimate adhesion to it, and when the larynx or bronchia is its seat, offers such an obstruction to respiration as to cause death by suffocation. These diptherites furnish outlets to infantile life from which adults are nearly exempt; and when it is remembered that children are at least equally subject to ordinary acute inflammation of the pulmonary mucous membrane, as adults, and that this is attended with *more* copious secretion of mucus into the bronchia and *less* or *no* power of expectoration, we are prepared to form some estimate of the magnitude of this source of mortality to them.

Secondly. Let us direct our attention to the development, &c. of *the cerebro-spinal system, the brain and spinal marrow,* and inquire into the part it contributes to the catalogue of infantile maladies.

The brain of new-born children is subject to many serious congestions, and here, as in the lungs, there may be engorgement only or extravasation of blood on the surface or in the substance or venticles of the organ. This congestion is not

produced by a determination of blood, consequent to the incipient exercise of the cerebral functions, but by some mechanical impediment to the free return of venous blood from the brain. It is, therefore, passive in its character, and in this respect differs from the pulmonary congestion we have been considering. If formed before respiration has taken place, it may prevent its establishment, because the want of respiration, if communicated, is not felt by the centre of perception and consequently the muscular movements necessary for the dilatation of the chest are not excited. In overpowering cerebral congestions death takes place from asphyxia, and in estimating the causes of mortality among infants, they belong to an item already considered; but they may not be immediately fatal,—the child continuing in a languid state for several days and then expiring. In such cases the fatal issue is attributable to softening of the brain, its structure being entirely broken down, and, as it were, dissolved by the fluids penetrating it. But the connexion between the brain and lungs is such that their dependence is mutual; if cerebral congestion may impair or destroy respiration, any considerable embarrassment of respiration, on the other hand, produces an accumulation of blood in the right cavities of the heart, extending to the veins and sinuses of the brain in common with the rest of the body. Hence, the veins of the neck and head are seen to swell and the countenance to become tumid and discolored when respiration is but momentarily suspended by falls, passion, &c.

These congestions may be followed by inflammation, the excess of blood itself operating as an irritant. It must be observed that inflammation at this period attacks the membranes much more frequently than the brain itself or the spinal marrow, and that convulsions are the usual consequence

of such attacks. In twenty out of thirty new born children, who died of convulsions at the Paris Foundling Hospital, well marked inflammation of the spinal membranes was discovered, and in six of them the cerebral membranes were also implicated. These meningeal inflammations have a strong tendency to terminate in effusion of serum, producing dropsy of the brain, which is almost peculiar to children and too often resists every form of medical treatment. The termination in effusion is sometimes so rapid and preceded by such slight evidences of indisposition, that the real nature of the disease was not for a long time understood, and it was classed with dropsies instead of inflammations by the best nosologists. To these peculiarities it is doubtless indebted for much of its fatality: neither the parents nor physician apprehending danger sometimes until convulsions, dilatation of the pupils, &c. admonish how futile will be all efforts to stay its destructive march.

Our inspection of the infant in this aspect has as yet been confined to the bud of its existence; let us survey it for a moment when its leaves and flowers are expanding and it sends out so many tendrils to bind it to the mother's heart. Occupied at first only with satisfying the wants common to it and the zoophite, its time is past in sleeping and feeding, and it emits but feeble glimmerings of intelligence. This dormant state of the mental faculties corresponds to the *imperfect development of the brain.* The researches of Tiedemann and others have shown that prior to the ninth month, the substance of the brain is perfectly homogeneous,—the distinction of cortical and medullary matter being but faintly if at all perceived, while its consistency is absolutely that of paste. But between the ninth and twelfth month it acquires greater firmness, the cortical contrasts decidedly, by its red-

dish gray color, with the medullary or white substance, and it assumes the aspect and form of that of the adult. It is at this period, when the organization of the brain is going on most rapidly and its peculiar functions are most active that it is most obnoxious to disease, and this accords with the general principle already announced: the development of the organ and the assumption or more vigorous performance of its functions invite a determination of blood to it, and this predisposes to disease in the manner already explained. Hence, children are more liable to inflammation of the brain or its membranes at this period and more exposed to convulsions arising from irritation in other organs. Until now, indeed, other organs influence the brain but little and, for want of a common head during its minority, affect an independence which they are compelled to surrender when its empire is established. It is on account of this imbecility of the brain that there is so little sympathy between the different organs in early infancy, that inflammation may take place in them, ending in suppuration and the most profound lesions of structure, without its being announced by febrile reaction. But when the brain receives its development and becomes the centre of perception, to which impressions are conveyed from all parts, to be reflected thence to all, it forges the chain of sympathy which unitizes them and makes each responsive to the impressions, whether salutary or noxious, made on the rest. And now observe the difference; irritation cannot be set up in any of the tissues, much less can inflammation take place, without arousing the heart and producing symptomatic fever, or, if its force be directed to the brain, spasms or convulsions ensue. In a word, it is only at this period that the nervous system participates fully in the peculiar excitability that characterizes all the tissues in infancy.

Third and lastly, we shall look to *the digestive organs as a source of infantile diseases.* Here it must be observed, in the first place, that digestion is performed with much greater activity in infants than in adults, as is evinced by the more frequent calls of appetite and the more rapid nutrition of the body. We should be led to expect, therefore, conformably to the principle already established and more than once alluded to, that their digestive organs would be more frequently diseased; and this is what observation has proved, it being a well known fact that more children die from diseases of these organs than any other. In New York, from the statistical tables already referred to, it appears that 6085 of the deaths were from *bowel complaints*, including under this head diarrhœa, dysentery, and cholera infantum. The digestive organs are in a state of extraordinary development at birth, the alimentary canal having received its full proportional dimensions, with its valvulæ conniventes for enlarging its surface, and the liver being much larger proportionally than in the adult, and they are the seat of an active circulation of blood. The mucous membrane is always redder, more vascular and irritable than in the adult; and hence none but the blandest nourishment can be tolerated. This congestion lays the foundation for disease, which sometimes proceeds to build without any other materials, but much oftener with the assistance of such as are furnished by the officiousness of nurses, who, not content with nature's beneficent provision, ply their charges with indigestible or too stimulating aliment or drench them with irritating drugs. From indiscretions of this kind, and sometimes notwithstanding all the precautions that can be taken, the digestive mucous membrane in very young infants is affected with inflammation, which may be confined to the mouth, stomach,

or intestines, but is prone to spread from one section to another. Fatal gastritis and enteritis are not uncommon at this period, but their complication, gastro-enteritis, we are assured by Billard, is much more frequent. The morbid secretions of the inflamed membrane very often concrete into thin pellicles, covering the diseased surface, and this is not confined to the mouth, where it is so commonly observed, but extends to the esophagus, stomach, and intestines. Diarrhœa and cholera infantum are most apt to appear at a more advanced period, and M. Billard* thinks that a new development, which takes place about the same time, has something to do with these complaints. At about the fourth month, numerous mucous follicles make their appearance, throughout the whole tract of the alimentary canal, but in greatest profusion in the intestines. If existing antecedently they are so small as to escape notice; but their development is very active at this time, and in consequence of their increased vital energy, their secretions are greatly augmented. As these mucous follicles are possessed in greatest number by dogs and other carnivorous animals, whose digestion is very powerful, M. Billard is of opinion that they are designed to strengthen the digestive forces and that their development is preparatory to the change of diet which the child must shortly undergo. Irritation of these mucous follicles, or simple increased secretory action, according to him, may give rise to diarrhœa, especially the serous diarrhœa of authors, as he has verified by post mortem examination.

Synchronous with this, another development, pertaining to the digestive organs, makes its appearance; *dentition* commences and is progressively carried on until at about three

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*Op. Cit.

years old, the child obtains its complement of deciduous teeth With regard to the morbid influences of this development there is, unfortunately, great discrepancy of opinion among pathologists. It may be observed, in general, that English writers attach great importance to dentition as a cause of disease, while the French depreciate or altogether repudiate it. Thus, of the former an eminent author, Mr. Bell, declares that "to enter upon a history of the consequences which result from the irritation of teething would be to treat generally of *all* the diseases of infancy; for there is scarcely a disease to which this period of life is subject, and scarcely a symptom appertaining to those diseases, which is not at times produced, or at least augmented by this cause."* On the other hand, a distinguished champion of the latter, M. Guersent, commences an article on this subject with this reflection: "the world ascribes most of the diseases of infancy to dentition; the difficulty of observing the diseases of early life, and the little positive information which we possess on this part of pathology, have contributed to radicate this opinion; and this prejudice resulting from our ignorance, like all other prejudices in medicine, has become popular."†

"Who shall decide when doctors disagree?" Why, doctors, of course, and, therefore we may be permitted to assume the umpirage.

Derangements of the digestive organs, especially diarrhœa and cholera infantum, a febrile state, and convulsive affections are the principal disorders ascribed to dentition, although Mr. Bell's list is much more extended. Now, it must be conceded that these diseases are much more apt to attack children during dentition than antecedently or subsequently: but this

*Anatomy, Physiology, and Diseases of the Teeth.
†Dictionnaire de Medicine.

may be only an accidental coincidence and such, indeed, is the explanation offered by M. Billard, who is strongly tinctured with the peculiar views of his French brethren in this respect. Diarrhœa, for example, he ascribes to the development of mucous follicles in the intestines, and convulsions to the activity of the organic process which is going on in the brain and spinal marrow at this period. With regard to the first, it may be observed that the congestion and increased excitability accompanying the follicular development certainly do strongly predispose to bowel affections; but it is doubtful whether disease would often result without the application of an exciting cause; if this be withheld, the predisposition will remain dormant in most instances, though it may sometimes be converted into disease by its very excess. The necessity of an exciting cause is argued from the fact that infantile diarrhœa may generally be traced to indigestible aliment, to cold, or some other cause which experience has proved to be adequate to the effect. The same strictures will apply to the second; while it is admitted that the congestion attendant on cerebral development may pass spontaneously into disease, much more frequently an exciting cause is necessary, and this may be found in local irritations of any of the organs, with which the brain sympathises: and among these gastric and intestinal irritation is known to be a frequent cause of convulsions in children. Now, the question is, can dental irritation be sufficiently great to prove an exciting cause of the diseases imputed to it? It is evident that when the process of dentition is regularly and healthily performed, it cannot be a source of disease, because being a natural development no more excitement should attend than what is necessary for its accomplishment. Some irritation of the gums and increased salivary secretion may be expected as a consequence of the

accompanying congestion. But because dentition is a natural function, does it follow, as M. Billard would insinuate, that it ought *always* to be effected without accident or risk to the child? What becomes, then, of his explanation of the frequency of bowel affections? Is not the development of follicles as natural, and should it not, therefore, be as harmless as the development of teeth? Regarding the subject, then, apart from all prejudice or sectarian bias, we are constrained to admit that both may become morbid, and consequently sources of disease to infants. But in the case of dentition, if we mistake not, besides the morbid liabilities accompanying it in common with all analogous processes, there is a peculiar source of irritation which is not found in the other developments to which we have referred. A glance at its physiology will disclose this specialty and enable us to appreciate its importance. The organic arrangement for the formation of the teeth is somewhat complicated, consisting of a vascular and nervous pulp, covered by a very delicate membrane, and these again invested by a fibrous membrane of very firm texture, composed of two distinct layers. The bony part of the tooth is secreted by the fine membrane of the pulp, and as the ossification advances from within outwards, the cavity occupied by the pulp is contracted, until reduced to the dimensions of the hollow of the perfect tooth. The ossification being completed, the inner surface of the fibrous coat takes on the office of secretion and furnishes the tooth with its covering of enamel; this being done, the fibrous membrane is no longer of any use, and must be removed to make way for the tooth before it can advance above the gums. Its removal is effected by the action of the absorbent vessels.

From this succinct exposition it is apparent that growth and decay are going on at the same time in this process, and

that in order to its harmony there must be perfect coincidence in the work of composition and decomposition: for, should the fibrous membrane *not* be removed in time, a barrier will be opposed to the emancipation of the teeth, and pressure continuing to be made on it by the advancing teeth, irritation first and then inflammation must be excited in its tissue. This is what happens in fact when dentition is morbid; and the inflammation extending to the gums, they become red, tumid, and painful, ending sometimes in ulceration. When it is remembered that inflammation exalts the sensibility of all the tissues, some idea may be formed of the pain that must be produced in the inflamed fibrous membrane, whose tension is at the same time increased, and this pain, Mr. Bell alleges, is exasperated by counter-pressure on the sensitive pulp itself.

The question now recurs, is there here a sufficient focus of irritation to produce any of the morbid effects ascribed to dentition? With regard to convulsions, there can be no hesitation in answering the question in the affirmative, for we are familiar with them as the consequence of other local irritations. Intense pain in any part may modify the brain so as to give rise to convulsions, nor can the minutest post mortem scrutiny always detect inflammation in this organ or its membranes in such cases. Ought it to be esteemed strange that a febrile state of system may arise from dental irritation? With what are we more conversant than symptomatic fever from local injuries attended with less pain? Ought we to be surprised that derangements of the digestive organs should proceed from this cause? The membrane that lines them is implicated in the mouth and the irritation of this point spreads with peculiar facility in infants, to say nothing of their sympathetic participation in the derangement of the nervous and circulating systems.

But, as it may be said that this reasoning is analogical only, and affords at most but presumptive proof of the point at issue, we shall adduce evidence which, we think, must be regarded as conclusive. That the morbid effects in question are sometimes produced by dentition is to be inferred: first, from the fact that they occur simultaneously with the inflammation of the gums and disappear when this subsides, to be renewed when the inflammation is again excited by the irritation of other teeth. Second, from the amelioration or complete removal of all the symptoms when the dental irritation is relieved by a free incision through the gums and fibrous membranes, an operation which, notwithstanding all the clamor that has been raised against it, is attended with little or no pain, involves no risk, and greatly facilitates the protrusion of the teeth. There is a vulgar prejudice against this operation which supposes that as the scar which follows the incision is *harder* than the gums, it will be more difficult for the teeth to make their way through it, and this prejudice is fostered by those who are incredulous as to dentition's being a cause of disease, and taken advantage of by charlatans, who have some nostrum to recommend instead of the lancet. It is not surprising that the latter should hold this up as a scarecrow to frighten parents to the use of ridiculous "soothing syrups," but it is both surprising and reprehensible that an enlightened physiologist, such as M. Billard, should countenance such an absurdity. We had supposed that it was known to every tyro in medicine, that all adventitious tissues designed to repair breaches of original structure, are possessed of *less* vitality, and that, though their *hardness* may be greater, they are *less* capable of resisting a vital force. Hence, when inflammation attacks a part or pressure excites the absorbents to action, cicatrices, if any exist, are the first to yield to ulcera-

tion or absorption, The teeth will, therefore, make their way through this *hard* scar much more easily than through the original gums.

From our subject, imperfectly as it has been handled, it would appear that disease is inseparable from the laws of organization, ordained for the production and growth of living beings, whose existence depends on the establishment of certain functions, the exercise of which may induce such derangement as to extinguish life, before the machinery it animates is put in harmonious motion. It is melancholy to reflect on the wrecks that are so thickly strewed on the broad and impetuous river of life in the very commencement of our voyage. Of the millions of frail barks launched on its treacherous bosom, with their gay pennants fluttering in the breeze, how few reach the haven of manhood, how many are ingulphed in infancy!

Although such is the constitution of nature, we may reasonably hope to mitigate the calamities of our lot, by the study and observance of her laws, and without a knowledge of those pertaining to organization, the diseases of infancy cannot be understood or scientifically treated. It must be allowed, indeed, that in spite of all the lights of science a degree of obscurity veils the diseases of this early period, from which those of a more advanced age are exempt. The diagnosis of the latter, besides being more strongly marked perhaps, is greatly assisted by the disclosures of the patient himself, an advantage which is denied to the former. But this obscurity is not as great as is commonly alleged: for, though infants have not the faculty of speech, their physiognomy, including not merely expression of countenance but the manner in which the different functions are performed, is very significant and reveals oftentimes not only the seat but nature of the

diseases to which they are a prey. This inarticulate language cannot be learned from lexicons nor can it be taught, except in a very general manner, in the prelections of the schools: it must be acquired by the diligent observation of nature, for which the major number of practitioners have so little relish that they turn from it with a feeling of irksomeness, if not with disgust. Spread before them a list of diseases which have been dissected by catachetical inquisition and methodically arranged according to their several groups of symptoms, leaving them only to inquire *by responses* whether the patient is suffering from this or that disease, and the task imposed has nothing in it revolting; the whole nosological nomenclature is patiently ransacked, and the disease singled out and prescribed for; but ask them *to observe* for themselves and in default of oral language to catch the lights and shades of disease, which no language can depict, and they are ready to sing a requiem to such aspirings, composed of lamentations over the darkness of pathology, which, it may be, exists only in their own minds. This blameable apathy has, in a measure, consigned the diseases of infants to the ignorance of nurses and the tender mercies of quacks, whose congenial element is *darkness*, real or fictitious. It is incumbent on Medicine to rescue infants from such incompetent hands, and by the profound study of the peculiarities of their organization and diseases to curtail the fearful mortality to which they are exposed.

ART. II.—*Case of Fatal Abscess of the Right Kidney.* By L. POWELL, M. D. of Louisville.

MR. B. S., ætat. 30, of tall stature, spare habit, and irritable temperament, had for several years been more or less affected with a sense of weight and fulness, with a feeling of uneasiness or obscure pain in the lumbar region, accompanied with an irritable state of the bladder, the urine being habitually discharged at short intervals, in small quantity and of unnatural color and consistence, being always more or less turbid, sometimes milky and frequently of brownish red color and depositing on standing more or less sediment.

When consulted in his case, and informed of the symptoms just detailed, I could not fail to infer a serious irritation or perhaps a subacute inflammation of the kidneys to be its true diagnostic character or the real pathological condition.

In accordance with this view he was restricted of exercise, confined to a strict anti-phlogistic regimen, subjected to one general bleeding and to frequent cuppings over the loins, to the moderate use of laxative medicines and demulcent drinks, and finally to counter irritation by a seton inserted in the back and worn for several months. Under this course of treatment the symptoms were palliated, and the comfort of the patient improved. It was obvious, however that no permanent benefit had accrued, and in the vague hope that travel and mineral waters might restore his health, the unfortunate gentleman visited the most celebrated springs of Virginia, made frequent and extensive excursions through the country, and sojourned one winter in the south, by which time a very sensible impairment of his general health had succeeded to the local symptoms. He returned to Louisville late in the

Fall of 1837, and again called my attention to his condition. He was now much reduced in flesh and strength, his complexion very sallow and the whole skin unnaturally dry and harsh, while the cuticle on the palms of the hands and the soles of the feet was exceedingly thickened and marked by fissures or cracks. But the most striking feature of the case in its present aspect was a large abdominal tumour occupying the right iliac and right hypochondriac regions and extending laterally in the opposite direction to á short space beyond the umbilicus. The tumour was in shape an irregular oblong of uniform surface, exceedingly tense and rather unyielding but slightly elastic under pressure. In reference to the further treatment of the case it was of the first importance that the nature and origin of this tumour should be satisfactorily ascertained. The difficulty of this task, however, was not a little increased by the various and discrepant opinions which had been passed upon it by the several medical gentlemen whom the patient had consulted at different points. Looking to the situation of the tumour, and its apparent connection with the symptoms of renal inflammation which had so long and so constantly preceded it, I felt myself justified in the decision that it resulted from and consisted in some morbid growth or structural change in the kidney itself.

After repeated examinations of the tumour, in which I was accompanied and aided by Dr. Flint, professor of Surgery in the Louisville Medical Institute, we thought that fluctuation was perceptible, and that the case in its present stage might be considered and treated as Abscess of the Kidney.

We accordingly made an incision into the tumour, when purulent matter of ordinary consistence and of greenish yellow color issued from the orifice, and continued to flow until full half a gallon had been collected in the vessel which re-

ceived it. A few days after the orifice having closed was again opened, when an additional quantity of pus was discharged, amounting perhaps to about one quart. From this time the orifice remained open, and the matter continued to be spontaneously discharged from day to day, in various quantity. For several weeks the case wore a most favorable aspect; no constitutional disturbance succeeded to the operation: the patient became cheerful in the hope of recovery, slept soundly, ate and digested a fair allowance of food, and enjoyed a regular state of the bowels, and an improved condition of the surface. At about four weeks from the date of the operation upon the tumour, and after an anxious and sleepless night, consequent upon an important transaction of business in which he had been involved, he was seized with a strong rigor, to which ensued in regular succession, and by daily paroxysms, a well defined hectic fever, bringing in its train cough, night-sweats, colliquative diarrhœa, which terminated his life about ninety days from the opening of the abscess.

A post mortem examination exhibited the following circumstances:—The abdominal points were divided by an incision over the tumour extending from the sternum to the pubis, by which the tumour, consisting now of the half empty sack of the abscess, was brought into view, extending from the natural situation of the kidney below, to the concave surface of the liver above, and united by old and strong adhesions, to all the contiguous parts and organs, to the walls of the abdomen, the folds of the intestines, and the concave face of the liver—where the union was so extensive and intimate as to be inseparable by the knife, seeming to constitute, with the liver, a continuous and identical structure of morbid condition and aspect. On enlarging the opening in the sac, and sponging out the matter which it contained, no trace of the

natural structure of the kidney remained; the substance of that organ seemed to have been utterly disorganized and destroyed, leaving only its original tunic now converted by inflammation and pressure into the diseased, thick walls of the abscess.

On exploring the cavity of the abscess, it was discovered to be divided into several compartments or pockets, in each of which was contained a quantity of urinary calculi of various sizes, from a millet-seed to the largest garden pea, and so lodged and compacted in these pouches, that they could not find their way into the general cavity of the abscess, while on the other hand, they could not be carried forward to the bladder—the renal orifice of the ureter having been completely obliterated by inflammation. The kidney of the opposite side was of normal structure, but rather paler than natural, and enlarged considerably beyond its usual size, and containing in its pelvis a single calculus of a soft and firiable texture, marking the incipient stage of a similar disease in the left kidney, to that which had already destroyed the right. The dissection was not extended to the lungs or other organs, in consequence of the intention of the friends of the deceased to convey his body for interment to a distant county. Enough, however, had been revealed to furnish to me the satisfactory assurance, that I had not erred in the diagnosis of the case, and to convey to his friends, the melancholy conviction that no course of treatment could have conducted it to a different issue.

Art. III.—*Remarks on Secale Cornutum in Pseudocyesis Molaris.* By Dr. Josiah Higgason, of Somerville, Tenn.

In the latter part of December 1838, I was called to see Mrs. G., laboring under excessive uterine hemorrhage. So alarming was her exhaustion from loss of blood, that, together with other means, it was necessary to have recourse to the tampon. She was then directed to lie in bed, use light diet, keep her bowels open by rhubarb and magnesia, with occasionally a small dose of calomel, and when threatened with a return of hemorrhage, to use pills composed of opium, ipecacuanha and acetate of lead. For about a week she had frequent returns of flooding, generally light, but of sufficient severity to require the pill. She had also rigors, without the sensation of coldness, which I have often found to be indicative of the existence of some extraneous body within the uterus. In the intervals of hemorrhage, she had a discharge of a sanguineo-mucous character from the vagina, which had continued with greater or less profuseness for twelve months.

The patient indulged the belief that the solid parts of a fœtus were retained within the uterus, and that this was the source of all her suffering, which led to an examination. The uterus was found to be of the size which it attains about the third month of gestation, with the cervix elongated and the os tincæ rigid. The examination satisfied me that I had taken a wrong view of the case—I had regarded it as one of a disordered state of the menstrual function, and had prescribed for it as such. I was now at a great loss to determine its precise character. Did the uterus contain a dead fœtus? If so, it must have been retained for twelve months, since, during that period, her health had been too bad to admit of conception. About a year previously she was supposed to have aborted, and the retained substance, she believed, had existed

within the uterus from that time. She recovered but imperfectly from the effects of the abortion, and continued to be pale and nervous, and to suffer with the discharge above referred to, which was occasionally so free, as to demand the use of astringent remedies, purgatives, &c. An alarming hemorrhage at the time specified, made it necessary to render her prompt and regular attention. She was found free from labor pains—the uterus had been quiescent for months—the cervix was firm, and the os uteri unyielding, but as the danger of the patient was imminent, it was determined, on consultation with Dr. Gray, a relative of the lady, to put her upon ten grain doses of ergot, every two or three hours, with a view to the production of light, but continued action in the uterus, thereby soliciting the relaxation of the parts. The remedy was commenced about 10 o'clock, A. M., and persevered in for four-and-thirty hours, when an organized, firm substance, about four inches long and two in diameter, was expelled. It was enveloped in a smooth, white, membranous coat, which had no appearance of having ever been attached to the uterus:—it was pear-shaped, corresponding to the cavity in which it had reposed, and in its structure spongy, or cellular, with tough, ligamentous bands, passing through it in different directions.

During the operation of the ergot, the following effects were observed with interest:—at first the hemorrhage was increased, but subsided when the tonic contractions of the uterus were established. After the first three doses, the patient complained of pain and uneasiness in the back, which gradually increased until the contractions became general, and occasionally severe. The remedy was then intermitted for a time, lest injury should result from too much pressure upon the still unyielding parts. Gradually, however, this rigidity

was found to give way, until the cervix was obliterated, and the os tincæ relaxed, and the contents of the uterus expelled with but little pain. After having been established the pains never entirely ceased until the end was accomplished. The increase of hemorrhage upon the first administration of the remedy is always to be expected under similar circumstances. Repeatedly have I used it after abortion with a view, not only to the expulsion of portions of involucra, but mechanically to diminish the cavity of the uterus, thereby, in a manner, closing the mouths of the bleeding vessels, and always with this effect—first, an increase of the flooding, and then a diminution and suspension of it.

The above is the only case in which I ever employed ergot in a rigid state of the os uteri, and have to regret that I did not resort to it a year earlier, since the patient would have been rescued from many months of anguish and apprehension. The expulsion of the foreign body would, probably, have been effected with less difficulty, as the parts, it may be presumed, were in a more relaxed condition. In regard to the medicinal properties of this article, an unfortunate diversity of opinion prevails among medical men, being esteemed inert by some, and incapable, under any circumstances, of producing uterine contractions; by others, as efficient only at the full period of gestation; while not a few would discard it altogether on account of the uncertainty of its operation—small doses sometimes exciting violent contractions, and at others, under apparently a similar state of the case, large doses proving inefficient.

I have employed ergot in my practice for a dozen years, and have seldom been disappointed in its effects. I have used it in abortion, where that event was already unavoidable, to quicken the expulsion of the ovum, and have administered it immediately afterwards, to arrest hemorrhage by di-

minishing the uterine cavity. I have given it during labor to strengthen and accelerate the pains when the presentation was favorable, and the os uteri dilatable, where otherwise, doubtless, the forceps would have been required. In retention of the placenta, whether from adhesion or inertia, I have also administered the article, and uniformly with the desired effect. My mode is to give it in substance finely pulverized, in doses of from ten to thirty grains, at longer or shorter intervals, according to the urgency of the case and the effect produced, and my confidence in its specific action upon the womb is as great, as in the peculiar action of tartar emetic upon the stomach. Of the unfavorable occurrences said to result from its administration—hour-glass contractions, rupture of the uterus, &c.—I have seen none, but on the contrary in the only case of rupture of that organ which I ever witnessed, not a particle of the medicine had been employed.

The history of a single case of its employment in retained placenta will close these remarks. It is one of many of a similar character:

Mrs. ——— in the year 1837, had been delivered of an infant eighteen hours, without the supervention of labor pains, and in this inert condition of the uterus, the placenta was not expelled. I attempted to remove it by Velpeau's method, but without success. The hand was not introduced because my experience in the virtues of ergot taught me to expect that it might be extracted by an easier method. Thirty grains of the article were administered, and the dose was repeated in fifteen minutes. Uterine contractions were not long in coming on, and by one effort of the organ the placenta was expelled. The pains continued to be so violent that an opiate was thought necesary, showing that the last portion of the medicine ought not to have been given.

REVIEWS.

ART. IV.—*Lectures on the Theory and Practice of Physic, delivered in the College of Physicians and Surgeons of the University of the State of New York. By the late* David Hosack, M. D. L. L. D., F. R. S., *Professor of the Theory and Practice, and of Clinical Medicine in that Institution. With an Introductory letter, by* Nathaniel Chapman, M. D., *Professor of the Theory and Practice of Medicine, in the University of Pennsylvania, &c. Edited by his friend and former pupil,* Henry W. Duchachet, D. D., *Rector of St. Stephen's Church,* Philadelphia. Herman Hooker, Chesnut street, 1838. p. p. 699, 8vo.

THE author of this volume was classed, during his life-time, with the ablest teachers of medicine in the United States; and its recommender and endorser holds, at present, a similar rank. We are justified, moreover, in alleging that the production of the volume is the result of the labor of not less than *thirty years*, industriously employed by the writer in observation, reading, composition and thought. It is therefore a work of high authority, and must be regarded as presenting a full and fair view of the treatment of diseases in the Atlantic States, as well as of the style and manner *in* which, or at least of the doctrines and directions *through* which, their treatment is taught in the medical schools of that portion of the United States.

Did any doubt exist as to the correctness of these remarks the commendations contained in Professor Chapman's "In-

troductory Letter" would dispel it. In his reference to the "Lectures" of which the volume consists, the Professor says:

"They embody a very large mass of curious and *useful* information, *clearly* and *agreeably conveyed.* Excepting some *pathological doctrines* I find little in them to which I would object. *The practical part I consider sound, or at least it corresponds very much with my own views.* Long and extensively engaged in the profession, and with his acute and discriminating mind, he, (Professor Hosack) could scarcely fail to arrive at just conclusions in whatever regards the management of disease. He deserves, and will no doubt rank, among the most authoritative of our writers. You (the Editor) have done well in publishing the work. *No effort shall I spare to promote its distribution; and I mean especially to recommend it to the attention of my class.*"

Such are the high and imposing auspices and recommendations to favor, under which this volume is ushered to the world. Is it worthy of them? and does it fill up completely the measure of expectation and confidence they are calculated to excite? Without assuming the responsibility or claiming the prerogative of giving to these questions categorical answers, we shall endeavor, by a brief discussion of the matter they embrace, to enable our readers to answer them for themselves.

Like all other productions of the kind, this which lies before us consists of an exposition of principles, and a system of practice. And with neither the one nor the other do *we* find reason to be satisfied; at least in their relation to this section of country where we ourselves reside, and respecting which alone we presume to decide. Whatever may be their amount of *aptitude* and *value* in the Eastern States, (and Professor Chapman is earnest in their praise) we are greatly mis-

taken if they have much of *either* in the States of the West. We do not positively say that they are better fitted to do mischief than good in this part of the Union; but we do say that nothing could tempt us to teach or recommend them to western students of medicine; and we should deeply grieve to see a sick friend treated in conformity to them. In truth they would be, of themselves, sufficient to convince us, were we not already convinced by other considerations, which have long been familar to us, that the Professors of the Atlantic schools are but very moderately qualified, or rather not qualified at all, to communicate to their pupils such views of *practical* medicine, as are suited to the diseases of the Mississippi Valley. How indeed can the case be otherwise? How is it possible for those professors, however able and learned they may be, to teach successful modes of treating diseases which they have never seen, and of whose ruling and peculiar features and character they are necessarily uninformed? In fact they neither do possess nor can possess, such resources for teaching. Nor can they ever attain them, unless they pass the mountains, and spend years in the midst of us, observing, studying, and treating our complaints. Let them thus act, and thus accomplish themselves, or else confine their instructions to the cure of maladies with which they have been conversant, and detail them only to the medical pupils of their own region. For *practical* purposes in the West, those instructions have neither fitness nor value. However *sectional* and exceptionable these sentiments may be considered in some places, and represented by some Journalists, they are too true and plain to be candidly *opposed by either fact or argument*, though they may be sturdily *denied*, and dogmatically *condemned*. And sufficient evidence to this effect shall be presently adduced. But a few farther introductory remarks must be previously offered.

In matter as well as in manner, the book we are examining is in accordance only with by-gone days—with some period we mean of the *eighteenth century*. Were its title "A TALE OF OTHER TIMES," it would not be inappropriate. Had it been published in 1788 (*fifty* years ago) instead of 1838, and in Germany or Prussia, instead of the United States, it would have been somewhat in harmony with the period and the place, and with the then-existing condition of the medical profession. But issuing from the American press at the *present* period, with the substance which makes it up, the shape which marks it, and the parade and ostentation put forth in its preparation, it is one of the most ill-timed, inappropriate, and *dislocated* productions we have ever witnessed. It is in manner, morever, a thing entirely apart from the present age—too starched and stiff, formal, dogmatic, and authoritative, for the free and easy, and flexible spirit of 1839. It is as much out of fashion, and as ill-suited to the medical taste and habit of the present day, as would be the bag-wig and the three-cornered hat for the medical head, or the flowing, plaited, and tasselled gown for the Professor's shoulders, when he presents himself to his class. It is much more characterized too by research and learning, than by judgment, science, and experience—especially that judgment and that experience, which could be made available in the treatment of our *western* diseases. Nor is this all. Though we shall not pronounce it a work of pedantic ostentation and learned parade; yet, were we to do so, to convict us of error would be a difficult task. We venture, however, to say, that a student of medicine may pore over such a book, or listen to the reading of it in the form of lectures, until he has memorized every word of it, and still be no better qualified to become a *successful practitioner* in the Mississippi Valley, than he would be by simply reading over

Boerhaave's aphorisms, Cullen's Outlines, or Gregory's Conspectus. And neither of these measures, nor any degree of attention he can pay to *eastern* lectures, or to the reading of European books, published during the last century, nor all of them combined, can fit him so well for the cure of western complaints, as will a faithful attendance on even a *single course* of *practical* lectures, prepared with ability and judgment, and well delivered, by a *western* teacher, who is thoroughly versed in the knowledge and treatment of such diseases.

While they manifest a state of marasmus, as respects originality, and a profound investigation of the laws of living organic matter, as they show themselves in the human body, in the phenomena and functions of health and disease, these "Lectures" are *hypertrophied* or *dropsical* in references, authority, and learned quotation. And this is true as respects almost every topic of which they treat. Whatever of thought they may contain is so enveloped in studied erudition, as greatly to obscure it, and so interwoven with the numerous opinions of other writers, as to puzzle the reader, and sometimes defeat him in his efforts to disentangle it. Much more deeply and annoyingly must it have puzzled a class of pupils, but slightly versed in medicine, to follow, comprehend, remember, and digest such a mass of learned matter as the "Lectures" contain, when they were merely read to them. The Professor seems never to have forgotten either himself, his authorites, or quotations, in his devotion to his subject. Nor is the matter at all mended by the fact, that such authorities are mostly the out-of-print and inaccessible works of ancient and early-modern writers, and the quotations too frequently in the Latin tongue. To *recent modern* authorities (those I mean that have appeared within

the last twenty or thirty years) his references are comparatively few. In proof of these remarks, a few special notices of the "Lectures" shall now be given. We shall begin with the Professor's Nosology, in which he has labored technically and abstractedly, and threaded a tangled wilderness of nomenclature, to a great extent, but, in our opinion, as regards utility, to very little purpose. Though we shall not exclaim, with the late Professor Rush, "delenda est nosologia" — let nosology be expunged from medicine; yet, while it is certainly the most difficult and repulsive branch of the profession, we regard it as by far the least instructive and useful one.

This subject, we say, our author has labored to an extravagant and unprofitable extent. His definition of it moreover we consider erroneous and deceptive. He denominates it an "arrangement of diseases in such order as will be best calculated to *give us a knowledge of them.*" To this "definition" (if so it can be called) we confidently reply, that a mere "*arrangement*" of diseases gives us *no* "knowledge of them." It gives us uninstructive *names* and *scholastic places* for them, and nothing more. When we have acquired, through other channels, a "knowledge of diseases," these names and places serve the purpose of remembrancers; and there their usefulness ends. As respects all other things the same is true. The things themselves, whatever they may be, must be learnt *first*, else their names are but empty and unprofitable sounds. True, in the nomenclature of diseases now forming, there is somewhat more of meaning and common-sense. The reason is plain. An effort is making to render the "sound an echo to the sense" — to affix a name which will express the leading characteristic of the complaint it designates. Yet still is the instruction thus conveyed exceedingly limited.

Names however must be given; but they should never be relied on for "knowledge."

As is his uniform custom, in relation to every topic he touches, our author crowds his lecture on nosology with all the names of nosologists he is able to muster. Nor does he observe in the citation of them any regular chronological order. He begins we think with Sydenham and Baglivi. Then come Aretæus, and Cœlius Aurelianus; Johnston, Sennertus, and Morgagni; Mead, Good, and Chapman; Boerhaave, Riverius, Hoffman, and Sauvages; Linnæus, Vogel, Sagar, McBride, and Cullen; with some others perhaps of minor note.

Cullen's Synopsis nosologiæ the Professor details at full length, consisting of four classes, eighteen orders, or perhaps more, and one hundred and fifty genera. To many points of this synopsis he offers objections, and then favors us with his own nosology. This contains eight classes, twenty-four orders, and one hundred and ninety-eight genera. Professor Chapman, as we have already shown, assures us, in his "Introductory," and recommendatory "letter," that, certain pathological doctrines excepted, he approves of the volume before us, by the lump. But nosology has no connexion with pathology. Of course the able Philadelphia Professor sanctions the nosological arrangement of Professor Hosack, with its two hundred and thirty significant appellatives! And we ask him seriously and respectfully, whether the fearful task of the commitment to memory of this long catalogue of "hard words," supposing it to be mastered, would furnish a pupil with a tittle of knowledge that would be useful to him, either in the true *science* of medicine, or in the management of disease? Nor will he venture to answer our question in the affirmative. And we ourselves very confidently

affirm, (without the least apprehension of being contradicted, and without regarding contradiction, should it occur) that a load on the memory, so multifarious and weighty, as Professor Hosack's nomenclature must produce, would give no shadow of aid in the cure of *western* diseases. Far from it. On the contrary, a crop of weeds so dense and useless, perhaps we might say so decidedly noxious, would be much more likely to choke and stint some salutary plants, or expel them entirely from the garden of the mind.

The next portion of the volume we are considering, on which we shall offer a few remarks, is the lecture " on fevers in general." This lecture we fix on for our purpose, not by way of selection, but because it comes next in the course of the book.

Here we have another display of learning to excite our wonder, and another amasment of authority to edify us. After referring to Hesiod, and quoting Horace, and speaking most learnedly of Pandora and her box, our author turns lexicographer, and favors us with a knowledge of the derivations and classical meanings of *fever*, *symptom*, *pathognomonic*, *diagnosis*, and perhaps a few other terms of Greek and Latin origin. His next attempt is to *define* fever. And here he summons from the grave, and from all times and places, a cloud of witnesses so dense, self-conflicting, and impenetrable, that instead of aiding him in the exposition and illustration of his subject, they do little else than obscure and distract his own views, and his reader's conception, by diffusing discord and darkness around him.

After duly descanting on the doctrines of fever maintained by Cullen, Boerhaave, Sauvages, and other moderns, and dissenting from each and all of them, he goes back to a remoter period of medical history, and musters, as auxiliaries in the

display he is making, the opinions of ancient physicians, and of those of an early date in modern times. In these references, that he may really "begin at the beginning," or as near to it as possible, he introduces us, as a matter of course, to Hippocrates, but declines making us known to Æsculapius or his sons. He then passes in review before us, like the descendants of Banquo, before the eyes of Macbeth, the shadowy forms of Erasistratus, Herophilus, Aretæus, and Celsus; Galen, Sennertus, Vogel, Van Helmont, De Haen, Pringle, Lind, Fordyce, Clutterbuck, and others.

We said that our author invoked all these worthies to aid him in discovering the nature of fever, and framing for it a definition. In this statement however we were mistaken. The Professor summoned those writers before him, to charge them with error, and show them that their views of fever were incorrect, and that he himself was the oracle to instruct them. And the precious revelation he makes to them is as follows:

"Fever I define to be, an affection of the whole system"! (Page 57.) To convince them that this revelation is genuine, and to induce them and all the living world to believe it emanated from himself, and was new to everbody else, he reveals a further fact, in the following words: "*My* definition, that fever is a disturbance of all the functions is adopted by Dr. Wright, Professor Jackson of Boston, and by Dr. Potter of Baltimore; and indeed the same is now adopted substantially in the Philadelphia school."!

Such is Professor Hosack's assumption of originality, as relates to the essence or definition of fever. And we regret that he made it; because it is groundless. That definition, whether right or wrong—a true revelation or a false one—belonged no more to him, than it does to ourselves. Professor Rush announced it *forty years* ago. Nor are we willing to

vouch that it was original with him. We suspect that it was not. He often however in his lectures thus expressed himself "Gentlemen, fever is a *disease of the whole system.*" And in passing from one form of fever to another, he frequently, if not uniformly remarked:—"This also, gentlemen, is a disease of the whole system."

But no matter who is the author of this so called definition of fever; and no matter who adopts it. Two objections lie against it, either of which is fatal to it. It is not a *definition* of any form of fever, because it communicates no *definite idea* of any sort of such affection—no idea, we mean, by which the complaint can be known and distinguished, by those who have received no knowledge of it from any other source. And an objection still more formidable is, that the definition *is not true.* There are forms and degrees of genuine fever, in which *all* the functions of the system are not deranged. This is true as respects the *external senses.* They are very important functions; and yet in various forms and degrees of fever they are as sound as they are in health. Indeed the cases of fever, in which *all* the external senses are "disturbed" *from the beginning*, are but few. In an *advanced stage* of very severe cases of cephalic fever, all the external senses often suffer; but rarely from the *commencement* of them. Were we inclined to dwell on this subject, we might say the same of the intellectual and moral faculties, whose soundness depends on the soundness of the brain. In many cases of fever they also are not disturbed—neither strengthened, debilitated nor perverted.

Our author then, we repeat, in his attempt to define fever has not been successful. Nor has any other writer. Fever has never been defined, notwithstanding the numerous efforts that have been made to that effect, by the ablest and most

eminent members of the profession. Worse still; it never can be defined; because, in different stages, different types, and different cases, it is widely different from itself—and *still is fever.* A *correct* definition of it, therefore, in one form, or one stage, would be an *incorrect* one in another. Hence, we say, a full and satisfactory definition of fever, in the abstract, can never be framed. The only practicable way to give a true picture of it is to delineate its several stages or elements in succession, and unite them as a whole—and the work will then be done—as well at least as it *can* be done.

Should any of the friends of our author, or any of those who concur with him in opinion, and are anxious to promote the circulation of his "Lectures," take exception at the freedom of our strictures on them, and the unceremoniousness of our objections to their doctrines, our reply to them is brief. We believe our objections and strictures to be true, and that it is our duty to offer them. Nor is this all. Professor Hosack in person, as his "Lectures" testify, has set us the example. He was himself proverbially a *fault-finder.* He rarely referred to a *contemporary* writer or teacher, but to state objections to some of his doctrines. It was chiefly on the opinions of the distinguished dead alone, especially of those who died centuries ago, that he did not make war, but quoted them as authority.

Lecture VI. on "Fevers in General," is a singular production. Though it contains a large amount of matter, not in itself uninteresting or useless, yet that matter is thrown together in a manner so irregular, loose and disjointed, as to present to the reader no definite end or aim, much less to establish any given point. In this Lecture moreover the Professor strikingly manifests and establishes the fact, that he is, in a high degree, a writer of other times, by his con-

tinuing to be a believer in antiquated and *obsolete notions.* Of this adherence by him to cast-off errors, either from obstinacy, or a want of better information, the following is an instance, the existence of which we would not have credited, had we not found it in his book.

"As before observed, it is the effect of respiration to increase the heat of the body—*the lungs are the fire-place*"!—In 1788, not long after the discovery of *latent heat*, this notion might have been tolerated; because it would have been in accordance with the philosophy of the day. But in 1838 (the date of the Lecture) it is equally in opposition to existing philosophy and established truth, and therefore unpardonable. Respiration does *not* increase the heat of the body; and the lungs are no more the fire-place, than the stomach or the liver. The notion bespeaks a radical defect in the Professor's physiology.

But from matters merely doctrinal, we shall pass to those that are strictly practical. And we regret to observe, that here also our report of the Lectures will not be commendatory—especially as relates to the treatment of diseases in the Valley of the West. We shall select for our purpose, the practice recommended by Professor Hosack in such forms of disease as are most prevalent in that Valley. Fever, in some of its modifications, is a disease of this description. That the Professor's mode of treating this complaint therefore may be seen, examined, and understood as it is, without abridgement, change or misrepresentation, we shall lay before the reader his nineteenth "Lecture" entire, whose heading is,

"THE GENERAL TREATMENT OF FEVER—TREATMENT OF THE FIRST STAGE."

"THE treatment of fever now falls under our consideration; and, as in describing the phenomena of fever we divided it into its different stages, we shall observe the same order in

speaking of its treatment, pointing out, as far as may be practicable, the remedies proper to be employed in the different stages of fever. At this time I propose, therefore, to point out the general indications of cure, the general means of fulfilling those indications, and the principles upon which those means are to be employed.

"In the treatment of the first stage, constituting the invasion of fever, the first indication, as we have remarked, agreeably to our view of the proximate cause, is to counteract the irritation, which appears more especially in the nervous system. Dr. Cullen's indication, agreeably to his view of the proximate cause of fever, ought to be to counteract his supposed debility, and accordingly, bark and wine, with other tonics and stimuli, would be the best remedies; but neither his doctrine, nor the treatment it leads to, I trust, will be contended for. The irritation we have noticed as existing in the first stage, or rather as constituting the first stage, shows itself in various ways. The symptoms which usher in the first stage of fever may be divided into three classes.

"The first class we may denominate the ordinary attack of fever, exhibiting itself perhaps by a slight chill and some sense of coldness, but without much pain or any other symptoms, local or general.

"In the second class, we find the patient attacked with severe pain, showing itself in the head, back, or limbs, or in all at the same time, with great general soreness and stricture of the surface—a distressing sense of coldness amounting to rigors or perhaps convulsions. These rigors are sometimes fatal, especially to aged persons; but Dr. Cullen remarks, that rigors taking place, the patient is not carried off by that paroxysm. This is not always so. I recollect the case of a gentleman who was thus attacked with rigors upon the invasion of a paroxysm followed by stupor, and which proved fatal to him during the very paroxysm—the irritation was such that they ended in an apoplexy; such was the crowded state of the vessels of the brain. He was subject to intermittents, and they usually affected his head. He had been exposed to the cause of it; it occurred during the season of its prevalence, and from the rigors and general symptoms which ushered it in, the character of the disease was not to be doubted. This event too, I believe, is of much more frequent occurrence than is usually supposed; it might be called the apoplectic state of intermittents.

"The third class of symptoms we find still more formidable and alarming, viz. delirium or mania; for all fevers, as we have seen is the case with yellow fever and the plague, are

not ushered in by the ordinary chill that usually announces the paroxysm of an intermittent.

"In the ordinary attack of fever, the heat generating power of the system is sufficient to counteract the temporary effects of the irritation produced upon the exteme vessels, for the tone of the system is not impaired, nor are any of the vital organs particularly oppressed. In that case, the constitution being good, and the body not more than ordinarily cold, the common practice is generally sufficient, viz. to place the patient comfortably warm in bed, and to administer to him some warm tepid drinks, as various teas or toast water.* Weak mint or catmint tea, when they can easily be procured, are preferable drinks when the stomach is disturbed during the invasion of fever. They should, however, be taken of moderate strength, as they may otherwise, by the essential oil they contain, increase the excitement of the system; the quantity too should be regulated by moderation, for we may excite the system by the quantity as well as the quality of the drinks we employ. I frequently also direct the patient previous to his getting into bed, if his extremities be cool, to bathe the feet in tepid water. I then give him a moderate sudorific anodyne, composed of ℥ss. of the spiritus mindereri, with from fifteen to twenty-five drops of laudanum. If the stomach is irritable, administer the dose in mint water.

"It is important, however, to remember that the hot stage of fever is very soon to succeed. Keep this always in view in all your prescriptions. On this account, too, observe the temperature of the water in which the patient immerses his feet, of the drinks he employs, and the temperature of the air of the room. With the same view the quantity of his bed clothing should also be regulated by the physician, and all stimuli, such as light, noise, company, business, should be withdrawn or guarded against at this time, in order to prevent or moderate the excitement which is soon to succeed.

"But one of the most important and efficacious class of remedies which can be administered at the invasion of fever, (especially the remittent and continued forms of fever,) when the situation of the patient is such as to call for or to justify

*Let me here remark, once for all, that the proper mode of makiug toast or bread water, is by infusing the slice of bread, when well browned, in boiling water, but not in cold water, as it usually is done; for the object is to give the drink moderately warm, and to render it grateful to the nauseated stomach; to do so, this is the only proper mode of preparing this drink, and thus prepared, it is one of the most palatable and grateful drinks to patients in general that can be directed in an irritable stomach, at the same time that it is readily obtained.

their use, is *emetics.* Armstrong, a late writer, p. 99, observes that 'in the beginning of almost all febrile complaints, emetics will generally be found very beneficial, though much neglected now-adays by many practitioners.' The emetic having operated, I usually direct some Indian gruel, either sweetened with brown sugar, or seasoned with a small quantity of common salt, to be taken afterwards, with the view to obtain some effect from it upon the bowels; in some instances, an hour or two after the emetic has ceased to operate, I add the sulphate of magnesia, or the sulphate of soda, or Rochelle salts to the gruel, or solicit an evacuation from the bowels by an enema, or a dose of Seidlitz powder.

"In the first stage, where it occurs under ordinary circumstances without those peculiar distressing impressions upon the nervous system; without the inordinate fulness of the blood-vessels producing delirium, stupor, or mania; where the degree of cold is not excessive; where the patient is neither too plethoric nor of too feeble a habit, nor too advanced in life, when the circulation of the brain is less active, and the vessels of the brain are perhaps loaded by the venous plethora; when these circumstances forbid their use, emetics, and these given so as to produce full vomiting, may be directed with the best effects. In some instances, too, the breath of the patient is offensive, the tongue is foul and loaded with sordes; he complains of a disagreeable taste in his mouth; in such cases, whether in the adult or child, they are peculiarly proper, especially if the fever may have habitually returned for several days, or there is reason to suspsct some additional source of irritation about the stomach or biliary organs, in such instances they cannot be too promptly administered. But not so in stupor or feeble old age, nor in yellow fever, are they to be administered.

"What are the effects of emetics, that they are so generally serviceable in fever?

"In the first place they empty the stomach of its contents; not only of indigestible food, but oftentimes of an inordinate quantity of mucus and other materials which may be accumulated in that organ. They promote the secretions of the stomach, and the adjacent viscera, particularly the liver. They increase the serous discharge of the intestines, and by the relaxing and antipasmodic effects on the whole system, they restore the perspiration, and unlock most of the secretions and excretions of the body. The emetic I prefer in such cases, and with the view to these general febrifuge effects, is composed of ipecac. and antim. as follows: Ipecac. x. gr. to xv. gr., com-

bined with tart. antimony, ij. gr., directing the patient to take little or no drink until it has operated; to be repeated, if necessary, in half an hour, or an hour, if it has begun to operate.

"For the removal of the second mode of attack, where the patient suffers much more pain, a great sense of soreness, or is affected by rigors or convulsions, such remedies are indicated as will most immediately diminish irritation, and particularly such remedies as are best calculated to allay spasm. Opiates, the warm bath, and tepid drinks must be had recourse to, and are among the best remedies we can employ for this purpose. Opiates are useful by diminishing sense and motion.

"To children I administer ten drops of laudanum every half hour, in conjunction with the tepid bath. In the adult thirty drops with ʒss. of the sp. mind. may be repeated every half hour, until the nervous system be composed. If the stomach be much disturbed, warm mint water will be the best vehicle for the laudanum. A general warm bath, as soon as it can be procured, ought also in such cases to be employed. In the meantime, however, the limbs may be wrapped up in fomentations composed of vinegar and water, one-third or one-fourth vinegar, and two or three parts water, but not spirituous fomentations; as before, paying attention to the temperature at which they are applied, lest more mischief than good arise from the manner of their application. It is no less important too, in applying them as far as possible to prevent the clothes of the patient, and the bed and bedding from becoming wet with the application made use of, as the patient afterwards is rendered liable to a chill from the cold and moisture surrounding him. For this purpose then, be careful to introduce one fold of the blanket between the legs of the patient and the bed he lies on. Let his limbs then be surrounded by the wet flannels with which the fomentation is applied, and another fold of the blanket that is beneath him turned, so as also to protect the clothing that is above him from becoming wet and uncomfortable. Another ready and common mode of applying steam or vapour to the body, and one to which the elder Dr. Bard was attached, is by means of bricks heated to a proper temperature. These should be surrounded first by a flannel cloth wet with a mixture of vinegar and water, and in order to prevent the bed from being made wet and uncomfortable, this should be again surrounded with another piece of dry flannel. Two of these bricks thus prepared and laid to the extremities, or at the sides of the patient, will be found useful both in restoring warmth, and inducing that greatest febrifuge of all, perspiration. And

we may observe, that the temperature of the body is much more reduced by perspiration than augmented by the heat that is thus applied in conjuction with moisture or steam. So, in like manner, the effects of the warm bath in producing a large discharge from the surface, more than counteracts all the heat that has been applied in the bath. But as I have before remarked, you cannot, as a general rule, be too particular in your directions relative to the temperature of all the internal or external applications that may be necessary in the treatment of fever at this stage.

"But again: in old men much affected by cold and rigor, their caloric carried off, the patients feeble and not in condition readily to restore the lost heat, and the heat perhaps abstracted by long previous exposure to cold; in that case stimuli may be administered, and are indicated. But even then they should be directed with some caution. *Respice finem* should still be our motto. Cordials and aromatics are improper in most cases of the invasion of fever; but in those which I have just mentioned, in which the system is feeble, the action in the extreme vessels can only be restored by stimuli, administered both internally and externally. Warm and stimulating drinks, such as gin or brandy toddy, spiced wine, or wine whey, should now be freely administered, until the temperature of the patient be restored. With the same view, other stimulants may be prescribed; as a tea-spoonful of compound spirits of lavender, frequently repeated, or twenty or thirty drops of the vinous spirit of ammonia, or of the aq. ammoniæ.

"External applications should also be directed, as a hot bath, made still more exciting by the addition of rum, or the aq. ammon. occasionally introduced while the patient is immersed in the water. Stimulant spirituous fomentations—stimulant cataplasms, prepared by dipping a slice of toasted bread in hot vinegar, and covering the same with mustard, may be applied to the soles of the feet, or other sensible parts of the body. The room too should be rendered warm, the patient covered with rather more than the ordinary quantity of clothing, with the view to accumulate heat about his person. But remember, all these stimuli are again gradually to be withdrawn, in proportion as the excitement of the system becomes restored, or may be increased; otherwise these very means of restoring the heat and circulation will be the means of exciting a high and dangerous degree of febrile action.

"But when the third mode of the invasion of fever comes on with delirium, stupor, or mania, a method of treatment is

called for totally different from that used in the ordinary attack, or in that accompanied with great coldness, severe pain, rigors, or convulsions. In this third mode of invasion, no cold stage is perceptible; it at once comes on with stupor, delirium, or the ravings of mania. In that case, if the pulse be full and slow, or hard and frequent, and the habit of body plethoric, as is frequently the case even in advanced life, we must have recourse to depletion. Not opium in this case; not, however, for the reason that perhaps some of you may give, because it proves a direct stimulant to the system; no, but because it retards the action in the smaller vessels, and thereby crowds the larger. Do you want proof of this? You have occular demonstration of it in the experiments made by Dr. Monro upon frogs. You also have it in the experiments made by Dr. Bard upon himself—see his thesis. But if it be not the property of a sedative to diminish sense and motion, then opium may be called a stimulant; and if it be the property of the stimulant to excite sense and motion, then opium is assuredly sedative.

"But to return. Evacuations by the lancet, and perhaps by cupping, or by dividing the temporal artery, if the symptoms be urgent—by cathartics, blisters, and sudorifics, (such as cream of tartar, sp. mind., &c.) to diminish the quantity of circulating fluids, which especially oppress or iritate the brain, must be employed. The vital functions being thus attacked, the most active measures become necessary.

"In the 188th No. of the Medical and Physical Journal, this practice is recommended as a new practice! and announced as a great discovery; and lately the same practice of blood-letting has been recommended in the treatment of typhus by Walsh of Edinburgh, and by Dr. Armstrong in his late work on the same subject, as a novel treatment. Venesection in intermittents, and in typhus, is a doctrine which has been well understood and practised in this country for many years, and taught in the University of Pennsylvania by Dr. Rush, and in this college. I also taught it in the very first lessons I ever delivered on the treatment of fever. All light does not proceed from the east. I had almost said, that Dr. Rush alone has done more towards introducing an efficient practice in the treatment of diseases, than all his cotemporaries in Europe or any other parts of the world collectively have done. But caution is no less necessary in discriminating between those cases where such active treatment is called for, and those where it is inadmissible; we otherwise may extinguish life instantaneously, for fever in this invasion is some-

times immediately fatal. But again; do not suffer the life of your patient to be sacrificed in this apoplectic form of fever for the want of the lancet, because forsooth it is symptomatic of the invasion of an intermittent, in which blood-letting in general is not advisable or necessary. Venesection, in the cold stage of an intermittent, has been lately recommended in the Edinburgh Journal, as if a new practice. It has been long since well understood in the United States. Be cautious, too, not to commit yourselves by denominating this form of fever apoplexy, for your patient in a few hours may be relieved, and the want of discrimination in you be censured for not foreseeing this result.

"Purges, in like manner, are generally improper in the first or cold stage of fever. So also, are such drinks as cream of tartar and tamarinds, &c., but they are not improper in the present state of stupor or phrenitis; they are now indicated. And recollect, too, that cathartics are not only indicated for the purpose of diminishing the fluids of the system, but also to transfer excitement from the brain, and thereby also to lessen the quantity of fluids there determined by such irritation. With this view, saline cathartics, or stimulant cathartics, composed of jalap and calomel, are to be preferred. I cannot, however, too severely reprobate the use of the small doses of calomel, usually and promiscuously prescribed under the appellation of fever powders; they are indeed fever powders, for they most effectually continue fever. Calomel, as a cathartic, in the beginning of fevers, is among the best that can be employed, and occasionally too, may be administered in the progress of the fever. It excites a degree of nausea, sometimes vomiting; unloads the biliary organs, dislodges scybala, invites a large secretion into the intestines; and afterwards, in unison with antimony, has a sensible effect upon the surface, as well as the excretory organs in general. Such purgatives as excite the whole system, as does colocynth, gamboge, &c., are to be avoided. This is where cathartics are indicated to empty the intestines, and thereby to prevent the absorption of the contents of the belly, which, as a means of repletion, would aggravate the disease, while by their qality they would add to the malignancy of such fever. Castor oil is frequently prescribed as a domestic purge in the beginning of fevers; as a means of emptying the intestinal tube it is effectual, but not so in its operation upon the liver, or the excretions of the general system. Enemata are also indicated, as more immediate in their operation than cathartic medicines.

"In the treatment of fever it frequently becomes necessary to combine all your forces, and as nearly as possible at the same time, and not in the successive and inefficient manner that we see remedies often directed. Such procedure is similar to that of a commander who suffers his army to be cut off, regiment by regiment; whereas, by one general engagement he might have been sure of victory, and that with a small loss of his men. Thus in fevers the powers of life are gradually destroyed by the continuance of the disease, and the many repeated, feeble and insufficient attempts in succession to bring about a cure—whereas, by summoning all your resources at the same time, you put the enemy to flight, and prevent that loss of strength that otherwise would be the result. We should not wait in such cases for the slow operation of cathartics, and which are rendered still more slow by the influence of the fever upon the system, but immediately administer the domestic injection, by which you will remove a great additional source of irritation from the bowels. Take oil, molasses, or honey; common salt, aa ʒss.; water ℔.i. M.; or equal parts of milk and water; or soft soap, ʒii., water ℔j.; or which is still more active, castor oil, ʒs., glaubersalts, ʒs., aq. pluvial. ℔i. M.

"Blisters are another means of diverting the excitement from the brain to the surface of the body, not by the mere discharge of fluids they occasion, but by the excitement they produce upon the surface, or to the part to which they are applied. Such, too, is the opinion of Dr. Jackson, that they produce their good effects by the local affection they create.* Armstrong, too, highly approves of blisters, as among the means of breaking up febrile action. But even the derivation of the fluids in these cases is useful, by abstracting them from the brain to which they tend, and the sooner blisters are applied the better. They should be applied behind the ears, between the shoulders, to the wrists, to the ankles, or to the præcordia; that is, to the most sensible parts of the body, for the very purpose of creating new and powerful excitement.

Sudorifics also constitute an important class of remedies in this stage and state of fever—that is, such sudorifics as at the same time that they relax the surface of the body, also diminish excitement in general. The sp. mindereri—aq. acetat amm., may be advantageously combined with a portion of tart. antimony. Antimony, in some of its forms, especially tartarized antimony, the tartrite of antimony and potass. gr.

* Jackson on Fevers, 224.

ij. in eight doses, with cream of tartar, ʒij., or in sweetened water alone. Vin. antimoniale, xxx. gtt. to ʒi., the pulvis antimonialis, that is, the antim. calc. phosph. gr. iv. to gr. vi. every two hours, in syrup. The real James' powder, from gr. x. to gr. xv. or ℈i. every two or three hours, or combined with calomel, from gr. iij. to gr. vi. of each combined, repeated every three hours. These diaphoretic or sudorific medicines should also be aided in their operation by suitable drinks. When the patient is in the use of antimonial medicines, his drink should be some of the following:—toast water, catmint tea, (nepeta cataria,) balm tea, (melissa officinalis,) common tea, (thea viridis,) bran tea, rice or barley water. But when the patient is not in the use of antimonial medicines, he may make use of other drinks, which he will find both more grateful and useful during the heat and thirst of fever, as lemonade, apple water, tamarind water, currant jelly and water, molasses and water with the addition of a small quantity of vinegar; this is commonly called switchell by our eastern brethren, and a most excellent drink it is too in fevers, unless the bowels may be too freely opened. It is frequently directed by me in the hospital. Vinegar whey, too, is another valuable drink in this excited state of the system; but these acid drinks, taken during the use of antimonial medicines, are frequently attended with pain in the bowels and in some instances they render those medicines dangerously active. They should give place, therefore, to some of those before enumerated."

Presuming that the western student of medicine, and the western practitioner of good intellect and some year's experience, have carefully read and studied the foregoing "Lecture," we ask the former what he has learnt from it, of a decided, pointed, and definite character? and the latter, what he has met with in it, in accordance with the practice he has found it necessary himself to pursue? And we feel no apprehension, that the reply from either will materially conflict with the sentiments respecting the production, which we have ourselves so openly expressed in the preceding pages. On the contrary we are persuaded it will harmonize with them. We venture to say, that any intelligent, educated, and observing physician, twenty-five years of age, and of

three years standing as a practitioner, in the Mississippi Valley, could instruct Professor Hosack, were he now living, how to *treat our prevailing fevers*, of every description, better—vastly better, than he instructed his class respecting them, by delivering his "Lectures" to them; or than his Reverend Editor will instruct the American faculty, by the publication of those "Lectures." Yet has Professor Chapman announced to the world that he "considers the *practical part* (of the "Lectures") *sound;* and that it corresponds very much with his own views." We do not pronounce the practice thus concurrently recommended by Professors Hosack and Chapman unsound, as relates to the complaints of the Eastern States. Far otherwise. On that point it would be unbecoming in us to deliver our opinion. But, as respects the complaints of the Western States, we do so pronounce it, because we *know* it to be, unsound. To teach it therefore to pupils, who intend to pursue their profession in the West and South, is to mislead and injure them. Worse still; it is to put the lives of their patients in danger.

There are also contained in the Lectures before us certain pathological doctrines, which we deem not only groundless in themselves, but, as far as their influence may extend, pernicious in their consequences. Prominent in this respect are those which relate to *contagion* and *humoralism*—especially that form of humoralism, of which a supposed putrescent condition of the human fluids during life, constitutes an element. These doctrines, connected with a few other points of interest, will probably be made the basis, at a future period, of another critique on the work we are considering. Meantime we say distinctly now, that we regard the unfounded notions respecting contagion and putresency, contended for by the late Professor Hosack and a *few* other physicians, to be, in their practical effects, among the most

mischievous that have been broached by medical writers. And we further say, that there is no physician, whether he be a Professor or not,whose sphere of practice has been exclusively east of the Alleghany mountains, who is competent either to deliver lectures, or to write a book, containing correct instructions how to treat the complaints of the West. Lectures and books, containing such instructions, can be prepared only by physicians who have a *practical* acquaintance with such complaints. If there be *positive maxims* in medical science, this is one of them. And it has been long a matter of regret and surprise to us, that due action has not been taken on it by western physicians.

ART. V.—*On Scarlatina*, in a Letter addressed to his Son.—By WILLIAM INGALLS, M.D., &c. &c. Second edition.

DR. INGALLS details three cases of Scarlatina, in his letter, with the mode of treatment which, during a long experience, he has found most successful. Remarking on the various remedies employed, we were surprised to find Dr. I. declaring that, in the treatment of Scarlatina, he was opposed to the detraction of blood by the lancet or leeches. We have been inclined to regard bleeding as one of the most potent means of subduing this formidable complaint—as indispensable in the highly inflammatory grades of the disease. Dr. I. remarks: "In the whole course of my practice in Scarlatina, *I have never employed blood-letting*, either general or local; and I do not recollect a single instance, in which I have had reason to regret the omission." He adds—"It may be proper to state, my practice has been chiefly within the city of Boston. As

the situation of a place, and of course, its climate and soil, the customs and manners of its inhabitants, may have great influence in varying the type of acute diseases, a difference in the mode of treatment may not only be proper, but required." Ptyalism occurred in two of his cases, which could not be traced to the action of mercury. He remarks:

"The ptyalism began to decline in about six days; to *me*, in this case, the cause of the complaint is unknown. Cases of idiopathic ptyalism have occasionally come uder my care from the commencement of my practice; some having all the characters of a mercurial salivation. This circumstance has led me to conjecture it may have been the result of mercury administered at a former period, and having lain dormant, until some change in the system have had the effect of bringing into action its properties of ulcerating the gums and mucous membrane of the cheeks and tongue, and consequently increasing the secretion of saliva. On this subject, however, I have formed no definite opinion.

"In this case of your sister, and also in that of your brother, an account of which follows it, I would remark, the ptyalism was not attended with the swelling and ulceration of the tongue and gums, nor the offensive fœtor peculiar to mercurial salivation."

ART. VI.—*Report of Experiments on the Action of the Heart.* By C. W. PENNOCK, M.D., &c. and E. M. MOORE, M.D. &c.

THE experiments detailed in this Report, appear to have been made with care, and under circumstances favorable to accuracy. The conclusions from them coincide very nearly with those of the British physiologists—the correctness of whose results, when compared with those of the French, the authors of the Report believe, is to be attributed to the use of large animals. The following are some of the conclusions:

"1st. The impulse is synchronous with, and caused by, the

ventricular contraction,—and when felt externally, arises from the striking of the apex of the heart against the thorax.

" 2d. The expulsion of the blood from the ventricles is effected by an approximation of the sides of the heart only, and not by a contraction of the apex towards the base; during the systole the heart performs a spiral movement, and becomes elongated. (Experiments 6th, 10th, and 11th.)

" 3d. The ventricle contracts and the auricle dilates at the same time, occupying about one-half of the whole time required for contraction, diastole, and repose. Immediately at the termination of the systole of the ventricle, its diastole succeeds, occupying about one-fourth of the whole time, synchronous with which the auricle diminishes, by emptying a portion of its blood in the ventricle, unaccompanied with muscular contraction. The remaining fourth is devoted to the repose of the ventricles, near the termination of which the auricle contracts actively, with a short, quick motion, thus distending the ventricles with an additional quantity of blood: this motion is propagated immediately to the ventricles, and their systole takes place, rendering their contractions almost continuous. (Experiments 15 and 16.)

" 4th. From the termination of their diastole to the commencement of their systole, the ventricles are in a state of perfect repose, their cavities remaining full, but not distended, while those of the auricles are partially so, during the whole time.

" 5th. The sounds are produced by the motions of the heart or its contents, and not by striking against the thorax, as proved in all the experiments; being much louder when the stethoscope was applied directly to the heart, than when to the chest, or with the lungs interposed.

" 6th. The sounds are more distinct when the muscle is thin, and contracts quickly. Hence, the clear, flapping character of the first sound over the right ventricle, as compared with the left.

" 7th. The first sound, the impulse, and the ventricular systole, are synchronous. This sound may be a combination of that caused by the contraction of the auricles, the flapping of the auriculo-ventricular valves, the rush of blood from the ventricles, and the sound of muscular contraction. From experiments 3d, 4th, 6th, and 10th, when the heart was removed from the body, the ventricles cut open and emptied of their contents, the auriculo-ventricular valves elevated, and a sound, resembling the first, still heard, it may be chiefly attributed to the muscular contraction. That these valves aid but slightly

in its production, may also be inferred from experiment 16.

" 8th. The second sound is caused exclusively by the closure of the semi-lunar valves from the reaction of the arterial columns of blood upon them, in its tendency to regurgitate through the aortic and pulmonary orifices. This is proved by the greater intensity of this sound over the aorta than elsewhere, the blood having a strong tendency to return through the valvular opening; by the greater feebleness of the sound over the pulmonary artery, which is short, and soon distributes its blood through the lungs, thus producing but slight impulse upon the valves in the attempt to regurgitate; by the disappearance of the sound, when the heart becomes congested and contracts feebly; and, finally, on account of its entire extinction when the valve of the aorta was elevated.

" 9th. The second sound is synchronous with the diastole of the ventricle."

Selections from American and Foreign Journals.

On the Treatment of Lateral Curvatures of the Spine, by the Subcutaneous Division of the Muscles of the Back and the Vertebral Column. Abstract of a Letter addressed to the Academy of Sciences. By Jules Guerin, m.d.

I have the honor to communicate to the Academy, the first result of a new operation, which I have already practiced twelve times successfully in subjects affected with lateral curvature of the spine. This operation consists in the section of certain muscles of the back and vertebral column. The muscles which I have at present divided are the trapezius, the rhomboideus, the levator anguli scapulæ, the sacro-lumbalis, longissimus dorsi, and the semi-spinalis.

The greater number of lateral distortions of the spine are the result of active muscular contraction, and their anatomical varieties are the result of this contraction, variously exhibited in the muscles of the spine and back. The active treatment of this class of deformities must, therefore, consist in the subcutaneous section of the muscles, to the shortening of which each deformity is due. The following are some details of the applications which I have made of this mode of treatment:

I have applied it to subjects of both sexes and of different ages: the youngest was thirteen, the oldest thirty-two years old. All the cases were deformed in the second or third degree, with proportionate twisting of the column, and gibbosity. In some a single division of the retracted muscles sufficed; in others, two or three had to be made. In all I obtained, immediately after the operation, a marked degree of straightening of the column; and in a young man of twenty-one, whose deformity had been subjected for eighteen months to mechanical treatment, I obtained by dividing the corresponding longissimus dorsi and semi-spinalis, an immediate removal of the whole deviation. In other subjects I have been able to pursue, with a constant success, the treatment, by mechanical means. In none of the twelve operations have I met with the least accident; there has been no hemorrhage; but little pain; no fever; and in every case but

one, immediate union of the wound has taken place, without suppuration. I may add that though delicate, this operation may be performed almost as easily as the similar one in the neck or foot.—*Gazette Medicale. June* 29, 1839.

Singular Case of a Woman delivered of Five Children.

Giuseppa Califani, of Naples, at the age of fourteen years and three months, was married to a man aged twenty-seven, by whom she had ten children at eight accouchements; at the fifth and sixth producing twins. She lived with her husband ten years, and remained a widow three years after his death; she then took a second husband, whose age was about twenty-nine. After two regular accouchements upon her third pregnancy she became enormously large; so that, at seven months she appeared to be at the termination of her natural period. She was taken, however, at seven months, with labor-pains, and brought forth, successively, and by natural presentation, five living children, all of whom were baptized. The mother did not suffer anything extraordinary. Four of these children were females, and one male. The male infant was delivered first, and after a few minutes one female; then after a cessation of fifteen minutes' interval between each, the other three followed. The infants much resembled each other, and were of a regular form and well grown, and very nearly of the ordinary size of a seven months' fœtus; each weighed about 3½lbs., and measured in length a French foot. The insertion of the umbilical cord was about four lines lower down than ordinarily. The placentas with their membranes were four instead of five; and each had its proper umbilical cord, except the fourth, which contained two in one large sac. The fœtus, with their membranes, placenta, and umbilical cords, are preserved in the Royal Anatomical Museum of the University of Naples.—*Bulletine delle Scinze Mediche.*

Singular case of Malformation.

On the 20th March of this year (1839), at Schneidemuhl, a stout woman who had before borne five living and healthy children, was delivered of a remarkably stout female infant, presenting the following defective formation. The heart, and, under it, the stomach, both organs apparently separated by a partition, lie outside of the thoracic and abdominal cavities, in a sack of skin, nearly transparent. The protrusion is

through a deficiency of the lower third of the sternum and upper part of the wall of the abdomen, as far as midway between the pit of the stomach and navel. The fissure is altogether $5\frac{1}{2}$ inches long, and $2\frac{1}{4}$ inches broad, and is situate almost in the middle line of the body. The child is living, sucks, and is otherwise well. The prolapsed parts are protected by an appropriate bandage.—*Med. Zeitung. April* 17, 1839.

Galvanic Obstetric Forceps. By Prof. Kilian, of Bonn.

Desirous of ascertaining how forceps, the blades of which were made of different metals, would affect the uterus in tardy labors, Professor Kilian caused such a pair to be manufactured. An opportunity soon occurred for testing its efficacy. Labor was proceeding slowly from deficient action of the uterus, and for two hours and a half the head had remained in the same spot. The forceps were applied, and, as soon as the two blades were joined, the uterus was felt to contract powerfully, but not in such a manner as to assist in the expulsion of the child.

[Was not this mere accident?]—*Medicinische Zeitung.* No. xii. 1839.

On Hydrated Peroxyde of Iron as an Antidote to Arsenic. By a Commission of the Academy of Medicine of Paris.

Dogs were first destroyed by arsenic, to determine the time in which that poison proves fatal when its action is not interfered with, and to obtain a standard by which the beneficial effects of the antidote might be more nearly estimated. Other dogs were killed by ligature of the œsophagus to determine the influence which that necessary operation would have in their destruction. Four different oxides of iron were then used with different dogs to whom arsenic had been given. A moist protoxyde, containing nineteen per cent. of anhydrous peroxyde, and a black oxide containing seven per cent. were entirely inefficacious; the dogs died as soon as they would if no means had been used to save them. The moist hydrated peroxyde, and the common dry hydrated peroxyde of iron (the subcarbonate of iron of former pharmacopœiæ, and ferri-sesqui-oxydum of the present,) both produced more important results. Ten animals poisoned with arsenic were treated with the first. In the first experiments large doses (half a drachm) of arsenic were given,

and comparatively small quantities (four, six or eight ounces,) of the magma of peroxyde of iron; yet all the animals lived many hours longer than when the action of the arsenic was left uncontrolled. In the subsequent experiments, twelve grains of arsenic were given, and from eight to sixteen ounces of the antidote; and all the dogs thus treated lived as long as the ligature of the œsophagus would permit them.

With the second compound (the subcarbonate of sesquioxyde of iron,) in three experiments, in which four grains of arsenious acid, and three ounces of the antidote were given, the animals, like those last mentioned, lived to the full period which is possible, after tying the œsophagus. The arsenite of peroxyde of iron (the salt which was supposed to be found in the stomach in the preceding cases) was next given to dogs, and evidently acted as a virulent poison. But the apparent anomaly of these cases was proved, by some further experiments, to result from the arsenite of iron, thus administered, being decomposed by the hydrochloric and lactic acids of the gastric secretion, and some uncombined arsenious acid being set free; and this showed that, to counteract the effects of the arsenic it would be necessary to administer the peroxyde of iron in considerable excess, so that every portion of arsenious acid, whether originally existing in the stomach or set free by the decomposition of arsenite of iron, might be completely neutralized.

The results of all these experiments on animals were completely confirmed by the chemical examinations by which M. Guibourt determined the composition and the mutual actions of the substances employed. Thus the first two oxydes that were employed were of no avail against the effects of the arsenic: and from M. Guibourt's chemical researches it was evident that they did not render arsenious acid insoluble. In the physiological experiments the moist hydrated peroxyde of iron neutralised the arsenious acid in the stomach, imperfectly, indeed, when there was a proportionably large quantity of acid, but completely when the proportion of arsenic was small and that of the peroxyde considerable; and in the chemical experiments it appeared that ten parts of the dry peroxyde were necessary to neutralize one of arsenious acid. In the physiological experiments, again, the dry peroxyde completely neutralized the arsenious acid; and in the chemical the same peroxyde reduced to traces scarcely perceptible the precipitate of arsenious acid that could be obtained by Marsh's apparatus.

It is evident then (the Report continues,) that in the circumstances which have been determined, dogs have taken

arsenic sufficient to destroy them in a few hours, and that yet they have lived as long as if only the œsophagus had been tied. The poison, therefore, has had no effect;—the peroxyde of iron, which we have employed is, consequently, a real and efficacious antidote to arsenious acid.

Now, it is demonstrated that we have *disempoisoned* dogs that had taken arsenic; we have determined what doses of hydrated peroxyde of iron are necessary to neutralize fatal quantities of arsenious acid; we have employed with the greatest success, not only the moist peroxyde of iron (always an inconvenient compound), but also the dry hydrated peroxyde, so common in the shops under the name of subcarbonate of iron, and so easy to administer in all imaginable doses, and so little injurious that we can see no necessity to limit the employment that may be made of it in these cases of poisoning. The following then, is the mode of treatment which we should advise to be employed in these cases.

The first duty of the physician is to remove from the stomach the greatest possible quantity of the poison by vomiting. For this purpose watery drinks are improper; but while waiting for the peroxyde of iron, the doctor should tickle the vula, and administer oil, which will not dissolve the arsenious acid; but above all, as soon as it can be procured, the patient should be gorged with warm water, charged with some ounces of the peroxyde. The water will cause vomiting, and the peroxyde of iron, which is suspended in it, will neutralize the particles of arsenious acid that are dissolved. This means fulfils at once the two chief indications in every case of poisoning. The antidote must be given as soon as possible, and in such a quantity, and for such a time that there can be no reason to suppose a single atom of arsenious acid remains in the stomach. Four ounces of the dry hydrated peroxyde of iron (the subcarbonate of iron of the shops, the ferri-sesquioxydum of the London Pharmacopœiæ,) should be suspended in twenty-four ounces of water, and a good glass of the mixture should be taken every ten minutes. After four ounces are consumed, fresh doses of the same compound should be administered in the same way, and the patient should not be considered out of danger till he has taken at least half an ounce of the peroxyde for each grain of arsenious acid supposed to have remained in the stomach. If, afterwards, symptoms of inflammation should manifest themselves, prompt recourse must be had to antiphlogistics and other appropriate means.

In the short discussion which followed the reading of

the Report, M. Devergie said he thought the conclusion too explicit; that the large quantites of the peroxyde which it was necessary to administer, even when but a small quantity of arsenic had been taken, would always be an obstacle to its use, and that it would be unwise to let the presumed antidote take the place of any of the other means usually resorted to, especially continued vomiting. At the conclusion of the discussion it was agreed to employ the words " antidote" instead of " real and efficacious antidote;" and the Report was then unanimously ordered to be printed.—*Revue Medicale. Mai et Juin*, 1839.—*British and Foreign Med. Rev., July* 1839.

Urinary Diseases.—Proximate Cause of Diabetes.

Derangement of the digestive functions is here unquestionably the head and front of the offence. This derangement too is of a very peculiar kind: the stomach has a disposition to fabricate sugar to a preternatural extent out of the food, particularly the vegetable food, taken into it; for the disease is functional in every part, and is actually *disease* only because the *degree* of a natural process is surpassed—the healthy stomach generates sugar to a limited extent; the stomach of the melituric individual generates sugar in excess. The sugar produced in health is without doubt decomposed in the after-stages of digestion; it does not appear in any of the fluids of the body, nor in any of the secretions save milk, of which it is an element, nor in the feces; in the melituric state the sugar engendered is not decomposed; it enters the circulation. To explain all the rest of the disease,—the fever, and wasting, and excessive secretion of urine, &c., becomes easy after this: there is a substance mingled with the blood which is foreign to its constitution, and which consequently poisons life in its fountain head. The derangement of the kidneys is purely secondary, and is consequent upon its efforts as grand purifier of the system along with the lung, to free the circulating fluid of the cause of all the evil—the sugar. The morbid changes discovered in the kidneys, after death from melituria, have even generally been extremely trifling, they have mostly been such as indicated simple increase of functional activity; and this, in fact, is all that the kidneys can be rightfully charged with,—if their efforts are not much rather beneficent than prejudicial; for my own persuasion is, that without energetic action on their part, the disease would prove far more rapidly fatal than it does.

Treatment.— Dr. Willis remarks—"*Could we discover any means of preventing the stomach from forming sugar, we*

should, I believe, succeed in curing the disease. To this end the efforts of practitioners ought in future, as I imagine, to be directed.

He reprobates large doses of opium, but would employ the remedy in doses of one or two grains.

He naturally lauds the sudatorium. It happens, he says, very rarely indeed that a melituric patient is found who resists this powerful agent, which cause large drops of sweat to start upon the skin where no trace of moisture had been seen for months. The sudatorium has even been held as a complete prophylactic of the disease we are discussing: and it is curious to learn that in Russia, as Dr. Lefevre informs us, where every peasant and artizan makes use of the sudatorium, the disease is unknown. He had himself looked in vain through the records of the principal civil and military hospitals of the Russian empire, for the mention of a single case; and Sir James Wylie had not met with it once among upwards of two millions of soldiers who had passed under his notice as general military inspector. But the sudatorium, though seemingly useful, ultimately failed in two cases of Dr. Watson's. Still it is a valuable adjuct to our remedies.

He seems to anticipate much from magnesia.

Proposal to exclude Insalivation.—Dr. Willis, in his laudable anxiety to seize on any remedy for so desperate a disorder, as drowning men are known to catch at straws, proposes to exclude, so far as may be, the action of saliva from the process of digestion. He does this, because the experiments of Leuchs, Schwann, and Mueller have shewn the power possessed by saliva of converting starch into sugar.

Would any thing be gained by administering food to patients affected with melituria, without suffering it to undergo the ordinary preliminary mastication, thereby preventing it from being mingled with saliva? Would food that has not been mixed with saliva, thrive with man for any length of time? I believe it would.

Could vegetable food be administered to melituric patients without prejudice through an œsophagus tube? If the agent in the conversion of fecula into sugar be saliva, as seems certain from the experiments of the distinguished physiologists referred to, we should expect to avoid this conversion by preventing any saliva from reaching the stomach. Chemistry, which has served medicine so efficiently and on so many occasions, ought surely to come to her aid in this instance, and

show as well what will *prevent* as what will *cause* the formation of sugar from starch.

Are Diabetic Patients Intellectual?—It has been remarked, says Dr. Willis, that those who suffer from diabetes are generally individuals of superior intelligence. Hufeland, writing after he had passed something like sixty years in the exercise of his profession, says he never met with a *stupid* man affected with diabetes. From what we have seen of diabetes, it has appeared to us that individuals affected with it have been much like the ordinary run of mortals, some clever and some obtuse. Of this we are certain, that one of the *stupidest* of clod-hoppers died of it under our observation. Hufeland's, we should conceive to be one of those whimsical Continental crotchets, that make plain folks on this side of the water stare.

Mode of giving Alkalies for Lithic Acid Gravel.—Dr. Willis, after considering the caustic alkalies as nauseous, if not acrimonious, (a censure which is perhaps too harsh and indiscriminating,) and approving, of course, of the bicarbonates of potash and soda, observes that it is of great importance to exhibit them in a state of very plentiful dilution. Equal quantities, he says, of some of the natural mineral waters that actually contain but one or less than one part of bicarbonate of soda in 200 of the fluid, are more potent in rendering the urine alkaline than a solution of the same salt in the ratio of one to fifty or sixty. A dram, or at most two drams of the salt in from a pint and a half to three pints of fluid, is the proper proportion; and this quantity may be taken at intervals in the course of the day, with the effect of powerfully increasing the activity of the kidneys, speedily putting an end to the acidulous state of the urine, and either washing out lithic grit and concretions of late formation from the pelvis of the kidney, from the ureter or bladder, or disintegrating and dissolving them, wherever they chance to be arrested. Should the urine not become neutral in the course of a day, the quantity of the alkali may be increased. That the soda may be thus taken for a great length of time with impunity, several remarkable cases prove, though we think that this should not lead to the indiscriminate exhibition and abuse of a valuable medicine. —*Medico-Chirurgical Review, July*, 1839.

A Case of Intus-susceptio, with separation of Five Inches of Intestine followed by complete recovery. By John Fox, Esq., Surgeon, Cerne Abbas.

H. Diment, aged 16, ate some nuts on the 8th September, felt unwell on the 9th, and was seen by Mr. Fox on the 10th. He had pain about the umbilicus, and had had no motion for twenty-four hours. It is unnecessary for us to particularise symptoms or treatment, suffice to say that the case assumed all the characters of intus-susceptio, and resisted all the remedies directed against that disease by Mr. Fox. But on the 16th, it occurred to Mr. F. to give a trial to inflation. He immediately procured a bladder, and secured one end of it to the nozzle of a pair of bellows, and the other end to a common enema pipe, and having introduced the pipe its full length into the rectum, the bellows were set in motion by his pupil, and inflation forcibly but slowly persevered in for many minutes, until the poor boy complained of a disposition to "break wind," and said that his "belly was very tight." The convolutions of the intestines could be seen and felt distinctly, the arch of the colon most so; the tube was now withdrawn, and to Mr. F.'s great surprise and gratification, in about twenty minutes he said he felt as if he should soon have a stool; he was therefore lifted and supported upon the bedpan, when he passed off wind in large quantities, which in a few minutes was followed by a very copious and liqid evacuation, containing, however, a few hard lumps. He continued, after this, to pass flatus and stools, and to improve, until the 22d, when he was decidedly worse. Mr. Fox left him, supposing the case hopeless. On his arrival next morning, he was agreeably disappointed. He found that:—

"My patient's bowels had been very copiously moved, that he had afterwards slept for nearly two hours, and that he expressed himself as feeling in every respect more comfortable; at the same time, however, his nurse told me she 'supposed he would not last many days longer, as a large piece of his bowels had come away with one of his stools.' I immediately examined the stool, removed the substance alluded to, and having carefully washed it, I found that the woman's suspicions were correct, and that it was indeed a portion of one of the intestines, with some of the mesentery still adhering."

The lad recovered perfectly. Mr. Fox naturally regrets that he did not resort to inflation earlier.—*Medico-Chirurgical Review.*

Bleeding in Affections of the Brain.— Is not depletion by bleeding a practice still too general and indiscriminate in affections of the brain, and especially in the different forms of paralysis? I believe that the soundest medical experience will warrant this opinion. The vague conception that all these disorders depend upon some inflammation or pressure, which it is needful to remove, too much pervades and directs the prctice in them: and, if the seizure be one of sudden kind, this method of treatment is often pursued with an urgent and dangerous activity. Little heed is taken of the many cases where the symptoms depend upon irritation alone--or on loss of nervous power—or on deficient circulation of the blood within the brain—or on altered qualities of this blood—or, it may be, on morbid changes in the nervous substance itself. Theory might suggest that, in some of these various cases, the loss of blood leads to mischief.—Experience undoubtedly proves it; and there is cause to believe that this mischief, though abated of late years, is still neither infrequent nor small in amount.

It is certain indeed that there is a state of brain, best perhaps represented to us in its general effects of diminished nervous power, which tends to produce sometimes spasmodic seizures, sometimes delirious or maniacal affections, sometimes palsy of different parts of the body—these effects being in no wise obviated by depletion, but rather increased by all such means; while they are relieved by remedies which tend to excite the energy of the sensorium, and to augment the general power.—*Ib.*

History of the last illness of M. Broussais.

The editor of the Medico-Chirurgical Review, to whom we are indebted for this extract from the French Journal, very plausibly suggests that mischief was done in the case of M. Broussais, carcinomatous in its character, by the artificial dilatation of the gut by means of large bougies, and the application of caustic to its surface, and cautions the young surgeon against the employment of very energetic and hasty measures in the treatment of such diseases.

"It would seem that, after the death of the illustrious medical reformer, various reports were in circulation that his disease had been mismanaged, and that his health and

constitution had suffered more from the medical means that had been employed, than from the severity of the malady itself. M. *Amussat*, his medical attendant, has therefore felt himself called upon to exculpate himself by laying before the medical public a detailed report of his distinguished patient's case, and of the practice which he had pursued in treating it. The case is an instructive one, and the abridged report which we propose to lay before our readers, may probably interest them on more than one account.

For many years M. *Broussais* had been subject occasionally to attacks of severe pain, situated apparently in the pyloric extremity of the stomach, and of diarrhœa recurring at intervals. His appetite and digestion however, were almost uniformly good.

During the last two years or so of his life, he had experienced a gradually-increasing difficulty in the evacuation of the bowels; and at the same time pains at the neck of the bladder, and some degree of dysentery were frequently experienced. In April, 1838, he first consulted his friend, M. *Amussat*, who ascertained by examination, that the anterior wall of the lower part of the rectum was hard, thickened, and knobby, and who, (he tells us himself,) augured unfavorably of the case from his very first visit, although he assured his friend that his disease was only hæmorrhoids, and would be easily cured by means of ligature.

In consequence, however, of M. *Broussais's* objections to any operation, the use only of bougies, for the purpose of dilating the gut was resorted to. Considerable relief was obtained from this practice. A few weeks subsequently, M. *Amussat*, believing that more active measures were necessary, requested that MM. *Breschet* and *Sanson* be called to consult with him upon the case. It was agreed that the same treatment should be continued as hitherto, and that, if the vegetations on the gut increased much in size, recourse should be had to the use of the ligature and of caustic.

In July, the largest one of the tumors or vegetations, which was constantly protruded with a good deal of distress at each evacuation, was tied: it quickly came away, and the patient was considerably relieved in consequence. A few days after this operation, another tumor in every respect like the preceding one, began to cause the same uneasiness; and M. *Amussat* therefore resolved to get rid of it also by ligature.

It would seem, however, that the state of the parts was at this time even more unfavorable than it had been; for it is mentioned in the report;—"the disease had attacked the en-

tire circumference of the bowel, and had reached down to the sphincter: the mucous membrane was observed to be of a shining yellow color and to be much altered in its texture." A ligature was applied to the other tumor: but, as it could not be put high enough up so as to surround its base, M. *Amussat* attempted to destroy the pedicle by squeezing it between the blades of a pair of forceps.

This operation did not cause much uneasiness; but the examination of the gut afterwards was acutely painful. The bougies and tents were again had recouase to.

On the 13th of August, a small vegetation, which was constricted by the sphincter, was excised.

The report continues:—

"The inferior orifice of the rectum had been cleared from all obstructions, and was now readily dilatable. Not so, however, with the diseased portion of the gut. As already stated, the carcinomatous affection had attacked its whole circumference, and the diameter of the passage was so much diminished at the upper part, that the alvine evacuations could scarcely pass through. Enemata produced little or no benefit; and it was only by the use of the bougies and of purgative medicines that the bowels could be relieved."

As the vegetations appeared to be re-forming, M. *Amussat* began at this time to apply lunar-caustic to the inferior constricted part of the gut, and chiefly to its posterior wall, with the view, says he, *de detourner l'irritation qui se propageait a la vessie.* The urinary distress was speedily much relieved: Broussais himself has noted in his diary at this time, *Je n'ai plus de spasme dans la vessie; quand il y a de l'urine, je la rends.*

During the next four weeks, the free application of the caustic* to the diseased surface of the rectum was made four or five times: upon one or two occasions it caused very great pain.

During all this time, the patient seems to have been becoming weaker: his feet began to swell, and little or no progress had been made in widening the passage of the rectum. Indeed it is stated in the report of the case by M. *Amussat*, that on exploring the rectum after the eighth application of the caustic, he found the upper opening of the constricted part so much narrowed that the fæculent matter, collected above the point, could not pass through at all.

After this date, M. *Broussais* went to his country-house

*M. *Amussat* had a large *porte-caustique* made on purpose, as the extent of the diseased surface, which it was necessary to cauterise, was so considerable.

at *Vitry*, expecting that his general health might be improved by the change. He gradually, however, became weaker and weaker, and on the 16th of Nov., after an ineffectual attempt to relieve his bowels, he fell into an apoplectic stupor, and died in a few hours afterwards.

Dissection.—We shall only notice the state of the rectum. The extent of the diseased portion was for about four inches or so from the anus upwards. At one part the surface exhibited a state of pulpy *ramollissement*, resembling, somewhat the appearance of cerebriform degeneration.* The submucous cellular tissue was partially infiltrated with grumous purulent matter.

On the posterior part of the bowel, there was found a rupture of about an inch in extent; but this had taken place when the bowel was drawn away from its attachments.

At no part of the diseased portion was the gut observed to be much constricted: and, judging merely from the *post mortem* state of the parts, one could never have anticipated the degree of obstruction that had been present during life. The portion however of the rectum and of the sigmoid flexure of the colon immediately above or beyond the diseased parts, was found to be much more distended than it usually is.—*Gazette Medicale.*

Origin of Medical Journals.

In the autumn of 1796, Dr. Elihu H. Smith, a man of much refinement and rare acquirements in the profession, conceived the project of a medical periodical. He communicated his plan to his friend Dr. Edward Miller, and they together laid the design before Dr. Samuel L. Mitchell, who had just returned from Europe. They all three united in the enterprise and pursued it with so much vigour, that in August, 1797, the first number of the New York Medical Repository made its appearance. This work, the first of its kind, was warmly received, and ably supported. In its pages are to be found valuable records of our epidemics, and the other diseases of this country. Beginning with the yellow fever of 1793, it contains the complete history of that disease up almost to its last appearance here. It contains the most ample records of the spotted fever, a very fatal disorder that prevailed in the northern and eastern parts of the United States, from about 1807 until after the late war. It contains valuable memoirs

*We must not omit to mention that the putrefaction of the body was already considerably advanced, when the examination took place.

on the typhoid pneumonia, that committed such havoc among our soldiers, and spread to different parts of the country during the years 1813 and '14, and for a short time afterwards. It is rich in medical topography, and in the chemistry of the day, on which latter subject the celebrated Priestly was one of its diligent contributors.

From this as a parent stock, says the Rev. Dr. Miller, have sprung a number of similiar works in Europe and America. "The Medical and Philosophical Journal of London was commenced soon after the appearance of the Medical Repository, with the avowal of its editor that he took the hint from New York. Other editors in London, Paris, Edingburgh, and Bremen, in a short time started similar journals.—*New York Journal of Medicine and Surgery.*

On the Vesicating Properties of the Weevil. Extracted from the Inaugural Essay of Wm. M. S. Ridley, M.D., of North Carolina.

I propose offering to the consideration of the Medical Faculty of the University of Pennsylvania, the results of some experiments made by me for the purpose of ascertaining the vesicating powers of an insect, commonly known by the name of *Weevil*, and in Natural History by that of *Calandra granaria.*

A scientific description of this small insect may be found in the 12th volume of the Encyclopœdia Americana, under the head of Curculio. It is best known in the south from the great havoc it produces among crops of wheat and other small grain. Its ravages are not confined to the grain while maturing, but even after it is harvested the farmer encounters the greatest difficulty in expelling this intruder from his granaries.

The *Calandra granaria* is a native of Europe, whence it has probably been introduced into this country in the grain which has been from time to time imported. Immense quantities of the insect are now found in the southern parts of the United States; and its devastating influence is felt in all those sections in which grain is the chief article of cultivation. It may generally be found, in swarms, in beds of wheat, corn, rye, or oats, and more especially when the grain is garnered in warm barns, which have been in use for some length of time. It is not to be seen in the open air in autumn or winter, as it goes into winter quarters early in the fall, and is not out again until late in the ensuing spring.

In the fall of 1836, in the state of North Carolina, the author was overlooking some negroes, who were stirring and removing a quantity of wheat from one granary to another. This occasioned much disturbance among the insects. The weevil, in seeking a place of refuge, would alight, indiscriminately, in every direction, and particularly upon the bare necks and hands of the persons engaged in removing their beds. The negroes would either brush them away or crush them upon the surface. I noticed, on the subsequent day, that all those who had been thus engaged, were much spotted and blistered upon the parts of their bodies which had been exposed. This induced me to enquire of them the cause of the peculiar appearance, when one of the most intelligent of them informed me that it was a necessary consequence of thrashing, or otherwise interfering with wheat after it had been garnered. Being rather incredulous, I made some inquiries of intelligent farmers, who informed me that it was a fact which they had long noticed, but could not account for.

Having determined to investigate the affair, I made some experiments with the insects, and found that, upon being crushed upon the naked skin, they had the effect of producing vesications to a considerable degree. I also found that the effect was greatest immediately at the spot where the insect was crushed, and that the more equally the resulting fluid was diffused over the surface, the less was the injury done to the skin. These facts induced me to try the efficacy of the weevil as a vesicating agent.

Having collected some of the insects, and exposed them to the sun's rays, for the purpose of drying them, I prepared them into a cerate, according to the directions of the United States Pharmacopœia for "Ceratum Cantharides." A portion of this preparation I presented to my preceptor, Dr. James Ridley, with the request that he would employ it on the first opportunity, and inform me of the result. In a few days an opportunity was offered, and the cerate made from the weevils was substituted for the ordinary blistering cerate made with Spanish flies. It was found to produce identically the same effect as the latter, causing in a short time redness of the part, and in the course of a few hours, full vesication, without any symptoms of strangury. Since the time above adverted to, the author has had it in his power to employ the remedy only once; and, in this instance, it was desirable to obtain only its rubifacient action. The application was made over the epigastrium, and the effect desired was produced in a few hours. From these facts it may be inferred that the therapeutical operation

of the weevil, as an external remedy, is the same as that of the Spanish or potato fly. Its internal use may also be found identical, but the author has yet made no trials with it in this way. He only wishes to call attention to the subject, as it certainly presents an ample field for investigation, and may lead to curious if not useful results.

The only difficulty attending the investigation is that of taking the insects without injuring them, as upon this depends their efficiency as a remedy. The best method is to build up a large fire in the barn in which they may reside, when, if aroused from their beds in the grain and crevices of the granary, they will assemble in swarms towards the centre of the building, immediately over the fire, and will then fall down, either from the effects of the heat or from suffocation. After this, they may be collected and exposed for drying to the sun's rays. For use, they may be powdered, and treated precisely as the Spanish fly, in the preparation of the blistering cerate.

Extract from a Letter of Dr. Ridley, to Prof. Wood, of this City, dated Columbus, Georgia, Nov. 3, 1839.

Since obtaining my degree, I have continued to use the cerate made from the *Calandra granaria*, and it gives me much pleasure to assure you, that my expectations have been even surpassed. I am so fully convinced of its superiority as a vesicative agent over that prepared from the Spanish or potato fly, that I have adopted it in my practice, to the almost entire exclusion of the cerate in common use. My opinion is supported by numerous practitioners who have noticed its effects, and pronounce their preference for it over any other vesicating ointment they have ever used. It will produce a blister sooner than any other ointment, without those distressing symptoms so commonly attendant upon the action of cantharides.—*Medical Examiner, Nov.* 1839.

Dysentery.—From an interesting lecture by Dr. Gerhard at the Blockley Hospital, Philadelphia, we extract the following observations on the treatment of this disease.

"In the acute form of the disease, the treatment is sufficiently simple. The usual antiphlogistic means are required, with local applications to the inflamed mucous membrane, calculated to allay its irritability and remove its morbid secretions: these local remedies are narcotics and laxatives. In the prac-

tice of this hospital, especially during the present year, we rarely find it necessary to bleed. We give first a dose of castor oil, and then make use of the oily mixture. Calomel, either alone, or combined with opium or ipecacuanha, is by far the best remedy in severe cases; we sometimes also use ipecacuanha alone, or Dover's powder. In most cases mercurials are sufficient to effect a cure as soon as they produce ptyalism, when the symptoms of acute dysentery often cease at once. Half or a quarter of a grain of calomel, every two hours, will salivate in three or four days. It is usually combined with opium, to allay the griping, and prevent purging; or the pulv. ipecac. et opii may be employed in place of the opium, to effect the same objects. We have also frequently used ipecacuanha, either alone, or combined with opium or calomel. In the case of subacute dysentery before us, we have employed these articles, at times resorting to the acetate of lead, and various astringents, without much advantage: Dover's powder has produced the most benefit. In the acute case, we have administered half a grain of calomel, with three grains of Dover's powder, every two hours.

We rarely employ calomel as a *purgative* in this disease. We use it for a few days only, to produce its specific antiphlogistic effect—that is, until slight ptyalism is induced. If it is not then attended with good effects, it should be given up: a continuance of its use will do much injury, and tend to increase the ulceration of the bowels.

This is a peculiarity in the action of mercurials; in many acute imflammatory diseases, the advantages to be gained are when the point of salivation is reached, which is a test of the operation of the disease, and the system may then be regarded as saturated. I am quite convinced that if, from any peculiarity of the system, or from the disease assuming an unusual tendency to the spreading of the ulcerations, mercury should be administered after ptyalism has been produced without benefit, the patient is decidedly injured. The remedy is best adapted to the inflammatory forms of the disorder, and, as we shall presently see, is least fitted for the sloughing or malignant variety.

Of the particular remedies in dysentery, purgatives have been extensively employed. We have used many articles of this class; the best we find to be castor oil, which purges sufficiently to carry off the vitiated secretions, without producing much irritation. To prevent the oil from acting too harshly, and to lessen the irratability of the bowels, laudanum may be advantageously combined with it. The oleaginous mixture

is a good formula for their combination; of this we may give half an ounce every two hours, till it begins to act on the bowels. Rhubarb will also answer well as a purgative, and when the active symptoms have declined, the spiced syrup answers better than any other remedy. Venesection is sometimes required in acute dysentery, when the pulse is strong and corded; but we have not found it necessary in any case which has occurred in this hospital during the present year. The epidemic character of the disease has not been of the violent inflammatory character, which is a cardinal point in the diseases of the mucous surfaces, and seems necessary to the perfect cessation of the disease. I would not have you to misunderstand me, the term, restoration of the secretions, has been much abused and used vaguely. It means simply, in this case, to bring about the natural secretions of mucus, &c., in place of the diseased ones of blood and lymph. A certain set of remedies tend directly to produce this effect, and by restoring the natural secretions, they not only prove that the disease is ceasing, but they contribute to its cessation by producing depletion in the most effectual way, that is, through the natural emunctories of the part. Cups and leeches to the abdomen, along the course of the colon, are also frequently advisable; the latter may also be applied around the anus, for the purpose of drawing blood from the hæmorrhoidal vessels, and relieving the tenesmus. Warm fomentations are very often beneficially employed. But these measures, however important, cannot alone be relied on for the cure of the disase; we must restore the secretions to their healthy condition. This is a principal, though not the only object for which we employ calomel, with opiates, &c. The action of opium in dysentery is peculiar: in the first place, it allays the local pain and general irritability; and secondly, it quiets the spasmodic movements of the intestine, and thereby facilitates the process of cicatrization. But it may likewise produce bad effects; it tends to lock up the bowels, and prevent the discharge of the morbid secretions. To obviate this disadvantage we seldom use it alone, but combine it with castor oil, calomel, or ipecac. It may sometimes, however, be employed singly, either at the commencement or towards the close of the disease; but never during the height of the inflammation. Opium is also used by *injection*. In this city, opiate injections in dysentery have not been much employed till within the last few years; and in the country their use is still very limited, but in this hospital we are in the habit of using them very largely. From twenty to forty drops of laudanum may be

administered in this way, but not more, for dangerous consequences from time to time result from the frequent employment of large quantities of so powerful a narcotic, particularly when given by the rectum, in which mode of administration its action upon the brain is more irregular than when given in any other way. We usually inject twenty drops of laudanum mixed with a small portion of mucilage, every two, three, or four hours, according to the severity of the tenesmus, and the effects of the remedy; thus, if the stools cease, or if the mind becomes confused, dull, or the patient sleepy, its use should be suspended. There is still another way in which opium may be employed in dysentery; that is, by means of poultices sprinkled with laudanum, and applied to the abdomen.

Of the other remedies employed in dysentery, ipecacuanha, as we have already mentioned, is among the most useful. It is used either singly or combined with calomel or opium. A very effectual method of administering it, is in combination with extract of gentian and blue mass. This combination originated with Mr. Twining, and has been extensively and beneficially employed in India. It generally produces vomiting at first, but in a short time this effect ceases. We have tried it in one epidemic; its administration was followed by nausea and diaphoresis, and a considerable alleviation of the symptoms. It sometimes failed, but was generally successful. The proportions are, six grains of ipecacuanha, four of blue mass, and five of the extract of gentian.

Various other remedies have been employed in acute dysentery. They are principally depletions, such as saline purgatives, calomel in large doses, &c. These will doubtless answer in many of the ordinary cases of the disease.—*Ib.*

Extirpation of a part of a Rib for Neuralgia. By E. H. Dixon.

Oct. 16, 1838.—Jane Bailey, aged thirty, two years ago, was overturned in a carriage, and dragged something like a mile, receiving various contusions, and being taken out insensible. No lasting injury was the result, with the exception of a severe pain over the tenth rib of the left side, for which she received no treatment at the time, saving the customary bleeding practiced on such occasions. A few weeks after the injury, the affected spot became the seat of a small irregular projection, and of exquisite and constant pain. This pain I conceive to have been neuralgic in character, from the commencement, inasmuch as it was occasionally of equal violence

for weeks together, and not accompanied with other signs of inflammation. It would subside partially for a few hours and then recommence with such intolerable severity, that the patient assured me death was anticipated as a relief, to her misery. She had some little cough, with no expectoration; the cough I concluded to be the result of irritation, and constant loss of sleep, as I could detect no signs of pulmonary disease. The pain extended forwards and upwards, (from the projection which seemed to be near the sternal extremity of the rib,) over the stomach; upon turning her head and shoulders to the opposite side, so as to throw out the ribs, the projection was evidently caused by the end of the rib, as though the cartilage had been broken off. I at first thought it a fracture, with a redundant growth of bone, but, upon further examination, concluded the rib to be natural, though I could not account for its projection, without supposing a fracture to have occurred between the prominence and the vertebral articulation, thus destroying the natural curvature of the rib, opposing the action of the intercostal muscles, and favoring the absence of the cartilage; all this would sufficiently account for the projection. During the two years preceding the operation, the patient had been repeatedly cupped over the affected region, with momentary relief; part of this time was spent in the New York Hospital; her pain over the stomach being very acute; she had been treated whilst there for organic affection of that viscus. This, however, it seemed rational to explain, upon the principle of pain being continued from the irritated nerve, to its distribution; the anterior branch of the intercostal nerve going to the muscles and integument over the stomach. It was evident that counter irritation, however severe, would produce no benefit in such a case, and as the extirpation of the part of the nerve itself was impossible, without the certainty of opening the cavity of the pleura, I resolved to remove the projecting portion of the rib, hoping that when the tension was removed, the pain would cease.

I removed about two inches of the rib, by means of a very cautious dissection; leaving the cavity of the pleura unopened; the cartilage was not attached, being, most probably, absorbed. There was nothing peculiar or difficult in the operation; not a bad symptom ensued; the wound healed by adhesion in a week, the pain was removed instantly, and has not returned; the patient has gained twenty-three pounds of flesh, a sufficient evidence that a severely irritating cause had been removed.—*New York Journal of Medicine and Surgery.*

THE

WESTERN JOURNAL

OF

MEDICINE AND SURGERY.

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TO READERS AND CORRESPONDENTS.

Communications have been received from Drs. Hogg, Cartwright, Dickinson, Lawrie, Searcy, Bouchelle, Monette, and Caldwell.

The following works have been received:

Fifth Geological Report to the Twenty-third General Assembly of Tennessee, by G. Troost, M. D., Geologist to the State; Professor of Chemistry, Mineralogy and Geology in the Nashville University; and Member of the Geological Societies of France and Pennsylvania, of the American Philosophical Society, and of the Academy of Natural Sciences, Philadelphia. (From the Author.)

A Lecture Introductory to the Course of Surgery in the Jefferson Medical College, Philadelphia, for the Session of 1839—'40. By Joseph Pancoast, M. D., Professor of the Institutes and Practice of Surgery in Jefferson Medical College; one of the Surgeons to the Philadelphia Hospital; Fellow of the College of Physicians, &c. &c. (From the Author.

A system of Medical Etiquette, Rules and Regulations, as adopted by the Medical Association of North Eastern Kentucky. (From Dr. Duke.)

Thirteenth Annual Report of the Trustees of the Ohio Asylum for the Education of the Deaf and Dumb, for the year 1839. (From H. N. Hubbell, Esq.)

Introductory Lecture by Willis Baxley, M. D., Professor of Anatomy and Physiology in the University of Maryland, Baltimore 1839. (From the Author.)

The Salt Sulphur Springs of Monroe County, Va. By Thomas D. Mutter, M. D., Lecturer on Surgery, Corresponding Member of the New York Medical and Surgical Society; Fellow of the College of

Physicians of Philadelphia, &c. &c. Philadelphia, 1840. (From the Author.)

The American Journal of the Medical Sciences for February, 1840. (In exchange.)

The American Medical Library and Intelligencer, from February to June. (In exchage.)

The Maryland Medical and Surgical Journal. (In exchange.)

The Medical Examiner. (In exchange.)

The Homœopathic Examiner for January and February. (In exchange.)

The New York Journal of Medicine and Surgery. (In exchange.)

The Boston Medical and Surgical Journal. (In Exchange.)

☞The June number, which will complete the first volume of the Western Journal of Medicine and Surgery, will be put to press immediately, and issued without loss of time.

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FEBRUARY, 1840.

ART. 1.—*An Essay on the Summer and Autumnal Remittent Fevers of Mississippi.* By JOHN W. MONETTE, M. D., of Washington, Mississippi.

THE following remarks are applicable especially to the endemical fevers of the old Natchez district, embracing the country within forty or fifty miles of Natchez, on the east side of the Mississippi. We apply the term "Remittent" merely as a general characteristic appellation, without any other signification, as nearly every case of our summer and autumnal fevers have exacerbations more or less regular, whatever other type they may assume.

After a few pathological remarks, I shall proceed to speak generally of the *nature, symptoms, pathology and treatment* of the different varieties of the two great classes of fevers in the south, viz.: *Fevers of open excitement, and congestive fevers.*

PATHOLOGICAL REMARKS.

According to Fordyce, "Fever is a disease of the whole system; it affects the head, trunk of the body, and the extremities; it affects the circulation, the absorption, and the nervous system; it affects the skin, muscular fibres, and the membranes; it affects the body, and it affects likewise the mind." Certain influences may so modify the acting cause as to produce cases of disease apparently distinct in character; and of these modifying influences, which cause these fevers to assume different types, the most common are difference of age, sex, temperament, climate, season, degree of predisposition pre-induced by exposure, and fatigue; besides other circumstances too tedious to rehearse. These often cause fever to assume the various characteristic forms designated by appellations, which seem to indicate distinct and opposite diseases. At least such is the case with those forms of fever which are most prevalent in the State of Mississippi, (and probably in other southern portions of the United States,) during the summer and autumnal months.

In a pathological point of view there may be propriety in the division of fevers into intermittent, remittent and continued, because there appears to be something peculiar, especially in intermittents; some peculiar property, or identifying principle, which makes them a class *sui generis;* but in a therapeutic point of light, the distinction is inadmissible. Autumnal fevers so often assume the remittent, intermittent, or continued forms, and so often pass alternately into each other, that the common diagnostic appellation is insufficient to satisfy therapeutic accuracy. A fever may be remittent or continued, and yet possess the same important features; the same

visceral congestion; the same broken reaction; the same local inflammation, or the same general excitement: or different cases grouped under the same class may each present very important diverse indications of cure.

In southern latitudes the influence of a tropical sun appears to cause all fevers to assume the remittent form, whatever other peculiarities may attend them. The same influence, also, seems to accelerate the morbid action, and hasten them on to fatal terminations, or to the most dangerous extremes, if not speedily arrested. Hence in this latitude almost every case of summer and autumnal fever excites serious apprehensions, and not unfrequently sets at defiance professional skill, and the powers of medicine.

Fevers of the remittent class constitute, under numerous varieties, a large majority of all the diseases to which the inhabitants of the south are liable, during nine months in the year. Even in the midst of winter, such is the mildness of the climate, many cases assume the characteristic symptoms of autumnal diseases. Those cases which occur in the autumnal months, as a general rule, are more malignant in their character, and of course more difficult to manage to a salutary issue. Fevers of inflammatory character are more common in January and February.

The predisposition to fever is stronger as a general rule in natives and those who have been some years resident in the country, than in those who are recently from more northern latitudes; provided the latter take the necessary precautions to avoid all improper exposure and imprudent exciting causes. It appears that the tone and tension of fibre existing in a northern constitution, resists the febrile influences, especially those of a debilitating or relaxing nature; while the natives with their systems already more relaxed and enervated by the

climate, are obliged to be more observant of those rules which they have found necessary for their health and comfort. Hence, also, strangers during their first summer, if prudent, are attacked with only a single fever of general excitement, which is easily subdued by depletion and the usual antiphlogistic regimen; while if attacked after their second or third summer, depletion will not be so requisite: and at a still later period after their emigration from the north they will be more liable, when attacked, to fevers of a *congestive* character, as they assimilate in constitution to the native.

In severe attacks of our autumnal fevers, the prominent symptoms often simulate those characteristic of specific or particular diseases; and the inexperienced practitioner is not unfrequently deceived and led into erroneous treatment. The most frequent of these appearances are those of cholera morbus, dysentery, bilious diarrhœa, menorrhagia, enteritis, cephalitis, and others which supervene in the progress of the disease. Even tetanus when occuring in summer and autumn, may not unfrequently be the result of that disordered state of the system, which generally shows itself in the developement of fever: and in such case the treatment adapted to that pathological state of fever in which tetanus appears, will be applicable to that manifestation of the morbid influence.

In an irritable constitution, the irritation may fall upon the liver, and profuse bilious discharges will be the consequence; or the brain will suffer in an equal degree: in a relaxed and leucophlegmatic temperament the irritation with relaxation may settle upon the alimentary canal, and profuse watery discharges will ensue; and unless arrested will induce visceral congestion and collapse: in a plethoric habit and in females especially, when a remora has formed in any viscus or organ

with a hæmorrhagic diathesis, the disease will be first indicated by hæmorrhage, as in menorrhagia, hæmorrhoids, &c. In another constitution, with firm tone of fibre, the circulation becomes excited, and reaction with partial inflammation takes place in some membrane or tissue, such as in enteritis or phrenitis: the irritation may be communicated to the spinal cord and nervous system, and symptoms of tetanus may succeed. In such cases it is the duty of the physician in attendance to ascertain with discrimination how he may best and most speedily relieve the general as well as the local effects of the morbid influence. In these views I am fully sustained by some of the best writers upon the diseases of tropical climates; than whom none is more to be approved, than Dr. James Johnson; from whom I will make a few extracts. I will however premise that he is too much filled with the impression that the liver is the only organ which suffers, and is the only one deserving our attention, almost to the exclusion of all the other great sub-systems.

Dr. Johnson observes, "in every case of dysentery, that has ever come within the range of my observation, two functions were invariably disordered from the very onset, and soon drew other derangements into their train. These were the functions of the skin, and of the liver; or perspiration and biliary secretions."—(*Trop. Clim.* p. 331.) Again—"The equilibrium of the circulation and excitability becomes disturbed. In consequence of the torpor in the extreme vessels on the surface, the volume of blood is directed to the interior; and the balance is further broken by the check which the portal current meets in the liver, from a corresponding torpor in the extreme or secreting vessels of that organ: the effect of which is, that the plethora in the cœliac and mesenteric circles is now greatly augmented and febrile symptoms commence."—*Ib.* 332.

The form of the febrile action which is developed will vary according to the constitution, and habit of the patient, or the predisposition existing in certain organs; for, as Dr. Johnson continues "the same causes, that, applied to one person, produce bilious fever, will in a second give rise to hepatitis; in a third to *mort de chien;* and in a fourth to dysentery; according to the organ that happens to be most predisposed to disease. * * * In short, the *same general causes* produce *bilious fever, hepatitis and dysentery.* They are branches from the same stem; the *organs principally affected* occasioning the variety of aspect: * * * and the principle which is to govern us, is, the restoration of the healthy perspiration and the biliary secretion, with the equilibrium of the circulation and excitability." In other words, "they are all cured on the same principle, and with some slight variety arising from local circumstances, by the same remedies: a strong proof of the connexion I have traced."—*Ibid* p. 345. We readily admit that the liver is generally the first great organ to sympathise with the function of the skin; but other organs and tissues likewise take on this sympathetic action; sometimes the bowels—sometimes the peritoneal covering of the abdomen; sometimes the nervous membrane of the stomach and bowels; even the uterus, in certain conditions sympathises more intimately than the liver. How this mysterious sympathy of function and condition between the skin and internal organs, is effected, is not within our power to explain; nor is it necessary; for the fact as it exists is all that is necessary, to comprehend the proper method of cure.

As Dr. Johnson has properly observed, whatever organ is first implicated, if not relieved, soon draws into its train others successively, until the whole system is as deeply implicated in the disordered action as the first; and the general cir-

culation, the secernent functions, and the nervous system are equally diseased. The *onus morbi* finally falls upon the weakest member, and thus the character of the general disease often changes its type in its progress: the nervous system may suffer in the advanced stages of the disease, although the sanguiferous system was most implicated in the first stage. The constitutional predisposition may cause cases to differ, although the locality and the exciting causes are the same.

It is not my object to discuss the morbific properties of miasm under its different varieties: but I doubt not, the most frequent sources of tropical diseases, are atmospheric influences operating through the medium of the skin. These influences are the changes of temperature and changes of humidity; or both irregularly succeeding or alternating each other. Much misapprehension and obscurity rest upon the doctrine of miasms; which are far less efficient as predisposing and exciting causes of fever, than solar influence; operating directly or indirectly upon the body. The sympathy of function and circulation existing between the surface of the body, and the various internal organs and tissues, gives rise to the various trains of morbid action which constitute our autumnal diseases. For the intimate connexion between the surface and internal organs and tissues we refer the reader to Dr. Johnson's works, upon "Tropical Climates" and "on the Liver." As he has treated very fully on this subject, we shall not detain the reader with a reiteration of those ideas which are so fully elucidated in the works just named. In the various forms of remitting fevers, the identity of the disease consists in the following series of symptoms variously combined; and these produce according to their diversity of combination in different cases, the apparent diversity of disease, viz: disordered cutaneous and hepatic secretion; venous engorgement

of the viscera, with diminished external heat and circulation; or arterial excitement with increased heat of the surface; broken reaction, or irregular determination of blood, with arterial excitement; irregular distribution of nervous influence, with pain or insensibility; diminished secretion from over excitement, or from congestion, attended with organic torpor; increased or diminished nervous irritability, with general torpor or spasmodic contractions of the muscles of locomotion. These are the general leading symptoms which constitute by far the majority of cases of summer and autumnal diseases in this latitude. Different cases consist of different groups of organs drawn into the disordered action; and each affected in its own peculiar manner, and inducing other sympathetic action; hence too often the great apparent diversity of diseases, which are in fact only so many modes in which disordered action makes itself cognizable to our senses. To explain satisfactorily the *rationale* or modus operandi of all the consecutive actions is, and will remain beyond the ken of human research. Nervous influence by nervous connection will explain much but not all: there are links of morbid action, and organic derangement which we cannot explain by any theory now known. Yet the fact that these sympathetic and functional links have an existence, frequently serves to direct our attention to the most salutary therapeutic course, and even to remote organs.

It has been contended by some that these febrile affections, but more especially yellow fever, depend upon an inflamed condition of the investing membranes of the spinal cord, the ganglious and nervous filaments. But whether this be the case or not, whether the investing membranes be inflamed or congested; whether functional action be disordered through the nervous filaments, by conveying to the parts upon which

they are distributed, a morbid nervous influence from the brain; or whether the brain as a *sensorium commune*, received disordered impressions through the nervous distribution, we deem but idle hypothesis and speculation; for whatever be the condition of these nervous filaments, it is but a link in the chain of disordered action; and in a therapeutic point of view it does not in the least facilitate the cure or modify the treatment. Our attention must be given to the great chain of morbid action as developed in the general system. In those sudden and violent cases, properly *congestive*, there is a collapse of the circulation similar to that in cholera maligna, but *not* with the same exhaustion of the circulating fluids. In congestive fever the *collapse is in the nervous and cerebral systems; the cerebral and nervous influence is prostrated as a primary effect;* and this may be roused through the medium of other tissues.

In most of our rapid and alarming cases of summer and autumnal fevers the stage of *oppression* is one of great importance; for while this stage is in progress, and it continues from a few hours to three days, the peculiar type and grade of the subsequent fever is established. If the system be plethoric of vital and other fluids, but of feeble powers of reaction, and weak nervous energy, the brain and nervous system are at once, or gradually overwhelmed, and reaction in the circulation, and cerebral energy are both imperfect. This is evinced by a greater or less degree of languor, listlessness, apathy, with relaxed skin and feeble circulation. The viscera of the three great cavities, from imperfect powers of reaction, become surcharged with blood, which scarcely circulates at all; while the general circulation is feeble and exhausted of a large portion of the general circulating mass. The skin becomes more relaxed, cool and marble-like to the sight and

touch; the brain becomes more languid, the great hepatic secretions are suppressed, and all other important secretions are equally arrested. A few hours often suffice to tell the melancholy tale. This is a case of rapid and fatal *congestive fever.* Those cases which are less fatal are attended with more suffering, and to those unexperienced in them, more alarming symptoms; which are only evidences of stronger constitutional powers of reaction. Those symptoms which generally give a favourable indication of the powers of the system, are extreme pain in the spine, and extremities; extreme irritation of the stomach and even of the larger intestines; a sudden discharge; of yellow or green bile; and in females, of a morbid menstrual discharge; sometimes the irritability is confined to the liver and results in copious secretion and discharge of yellow bile; which is always a favourable occurrence, if properly restrained and controlled; otherwise it may prove a means of rapid exhaustion. This is the great flood-gate by which the system is often relieved in these congestive cases. When the reaction is free, or where there is constitutional stamina for reaction, and aromatic and other active stimulants have been freely and perseveringly used, it is not uncommon for a degree of inflammation to succeed in the mucous membrane of the stomach and alimentary canal; when the opposite mode of treatment must be adopted. In the same manner local inflammations may supervene in other organs, in the progress of the change towards a salutary termination. Yet there is no case within my recollection where congestive fever has terminated in a stage of open excitement; or where the moderate reaction, which sometimes occurs, would not be most injuriously arrested by even moderate bloodletting.

In the successful treatment of these types of fever, it is a

matter of great importance to observe carefully the peculiar modes of developement, and the grades and order of sequence in the action. After the circulation is partially restored, the great object is to equalize and moderate local irritations; to control or moderate sympathetic sensations; to restore, correct, and moderate the secretions, and to evacuate morbid secretions from the alimentary canal; and thus obviate other sources of irritation.

To accomplish these ends, such remedies and medicines should be used, as are known by experience to operate in a favorable manner upon the organs or tissues most implicated in the morbid derangement, with as little disadvantage as possible, to others which are not disordered in the same degree, or which are not in the same pathological condition. In most cases of summer fever, whether it be an original case of congestive fever, or some variety of fever with open excitement, the nervous system suffers much in the progress of the disease; and the use of anodynes, and narcotics must not be overlooked; as is too frequently the case from prejudiced views. We shall further speak of these fevers common in Mississippi under the heads of *fevers of open excitement, and congestive fever.* This division if not more correct and philosophical, is at least better adapted for practical purposes, and the remarks which I propose to offer, than is the old and received division into intermittent, remittent and continued fevers. In these remarks, I desire it to be clearly understood that I do not confound these fevers with the *yellow fever* which sometimes is epidemic in our cities; for having seen much of both, I have no hesitation in declaring that I believe the latter a malignant disease *sui generis;* a disease which in its worst forms upon unacclimated persons is as much beyond

the control of medicine now as it was in the days of Dr. Rush.*

As it has been frequently asserted by physicians who have had partial opportunities of observation in the south-west, that typhus fever is not known in this latitude, I will make the passing remark that I have often seen in the latter part of autumn and in the early part of the winter season, cases of *typhus mitior* as genuine as it occurs in more northern latitudes, but rather shorter in duration, and more violent in its access and progress.

We will first speak of fevers of excitement, with some practical remarks on the most judicious mode of treatment; after which we will speak more fully on congestive fever.

FEVERS OF EXCITEMENT.

In this class I comprise all those cases of common summer and autumnal fever, in which increased arterial action or excitement, and increased heat of the surface are the most prominent symptoms, during the *early stage* if not throughout the whole progress. Yet cases do not always preserve the same character through all their stages: in a case where the excitement appears general and equally developed, some organ, such as the liver or spleen, may labour under a languid circulation, not unlike congestion; while other organs may yield to the continued excitement and inflammation, or great irritation may supervene. These consecutive symptoms may supervene in the mucous membrane of the alimentary canal,

* The epidemic so easily manged by Dr. Rush was "*Bilious* Yellow Fever"—a milder grade of that disease.

in the peritoneal coat of the abdomen, in the membranes of the brain, &c.

The general symptoms of this class of fevers, especially in the early stages are as follow, viz: The pulse is frequent, full and soft, or frequent, full and tense; the skin is hot, dry and florid, or hot dry and pale; and sometimes hot and moist, where abdominal congestion prevails; the tongue is pale and moist, or florid with numerous clean red points in the midst of a whitish or drab fur; sometimes the tongue is covered with a brown, or russet fur, but moist; at other times it is covered with a brown fur and dry or chapped; at other times the tongue is clean, red and glabrous, or dry, red and chapped; the secretions of bile, urine, &c., are vitiated or entirely suppressed, especially the former; the bowels are at first constipated, but often relaxed; the alvine discharges at first a dark yellow, or muddy yellow; upon the use of cathartics changing to a yellow serous fluid, or to pure yellow bile; there is more or less pain in the epigastrium or head; great inquietude, with mental confusion or delirium, and sometimes great irritability of the stomach. Where the pain in the head, spine and extremities is severe, with copious discharges of yellow bile, and with great nervous irritability, the case is properly one of *bilious fever*.

The genuine *bilious fever* of hot climates is simply a remittent fever, more or less violent, engendered upon an enfeebled constitution and irritable condition of the whole system, nervous and vascular. In these cases, especially where the pulse is quick and irritable, the degree of *irritation* in the nervous and vascular systems is proportionate to the irritable excitement; and this excitement must be reduced by calming the nervous system, and not by copious depletion. Moderate depletion with a judicious administration of opiates

and narcotics will succeed best. When the great emunctory of the system, the liver, partakes largely of the general irritation, it is thrown into excessive functional action; which is indicated by the profuse discharge of yellow bile; whereby the system is depleted, and still more exhausted, while the general irritability increases with the debility thus induced.

It is not uncommon for all cases of summer fever to be termed bilious fever; and a still more erroneous therapeutic course of treatment is the result. Instead of general portal torpor in *bilious fever*, as exists in many cases which are also termed bilious, we have a general morbid *irritable excitement*, and a peculiar train of sympathetic affections dependant upon an excited and irritable state of the whole portal circle, and of the brain. The brain, whether primarily or consecutively affected, is strongly implicated; and the intense pain in the head, in bilious fever, is no less a characteristic symptom than the profuse discharges of bile.

The characteristic symptoms of *bilious fever* are a quick, soft, and irritable pulse; great restlessness and anxiety; intense *pain in the head* with intolerance of light and sound; *profuse vomiting of thin yellow bile*, and often copious discharges of the same through the intestines; the skin is hot but without the dry mordant sensation produced by some other fevers; often the skin is bedewed with sweat and tinged of a dusky yellow; the stomach becomes very irritable, and other symptoms present in the progress of the disease, and vary with the modes of treatment and other contingent circumstances. The worst cases are in children from seven to sixteen years of age; and in those of lymphatic and nervous temperaments, whose system has been debilitated by previous indisposition, or visceral enlargements, or by poverty in diet and exposure to inclement weather. In such the countenance

is indicative of extreme anxiety, unless the cerebral irritation has been superseded by stupor; the skin pale and hot, and bathed in sweat; the abdomen is somewhat distended and inelastic: purgatives at first seem slow to act; but if active cathartics are administered they excite extreme mucous irritation in the bowels; copious serous and bilious discharges are thrown forth, and unless allayed by opiates and other anodyne remedies, bloody mucus succeeds, and exhaustion and death supervene. This class of fevers is more common in the lowlands along the Mississippi.

Under all their different forms and grades, these fevers appear to observe regular remissions corresponding to the paroxysms of quotidian and tertian intermittents; and the remissions are more complete where there is less of abdominal congestion or irritation. Thus the remissions in cases of true *bilious fever* are more complete than in other varieties: not unfrequently the patient that in the morning was free from fever and strongly anticipating health, in a few hours afterwards is despondent in all the sufferings of another aggravated paroxysm. Bilious remittents appear to observe regular quotidian or double tertian type; each alternate day being more or less severe: the whole duration of a regular attack well treated, does not exceed from three to seven days. However in some cases both during the hot months as well as the cool or winter months, these cases may be protracted to ten or fifteen days. The duration is in proportion to the intestinal irritation induced in each case by the disease and remedies.

TREATMENT.

In the treatment of these fevers, it would be absurd to lay down any uniform plan adapted to all cases; the judgment

and observation of a discriminating mind are at all times requisite to adapt the remedies and treatment to the varied conditions of the system, as they alternately present themselves, and imperiously require corresponding changes in the course of treatment. The enlightened physician will take a comprehensive and pervading view of the whole system, as formed of many sub-systems, which in health must harmonize in all their actions: when he sees discordant actions in any one or more of these sub-systems, his attention must be attracted to that which is most likely to exert the most periodical influence upon the whole. To treat a case properly he must know not only the extent, but the peculiar nature of the derangement in each organ or function in all the stages and periods of the disease; for in this latitude the changes in severe cases are often rapid, and must be observed at the earliest moment. None but an ignorant empiric would attempt to treat these diseases under a certain name, and by a prescribed routine of practice. One important distinction to be made is between *active* excitement and *irritable* excitement, whether in the circulation, or in the tissues; for in persons of delicate constitutions, and in females, the latter generally predominates; and is to be allayed by any other means than depletion and the active antiphlogistic regimen. A close discriminating eye must be kept upon the relation between the healthy and the morbid physiology of each and every sub-system in the united whole. Without this close observation, followed by a judicious, decisive and prompt treatment, the physician will often have the mortification to find his patient beyond the reach of medicine, before he has even apprehended danger. The progress of violent attacks of fever in this region, is so rapid, that there is but little time to be lost by indecisive treatment, or in trusting to the powers of nature.

The treatment pursued in the East and West Indies, with appropriate modifications according to circumstances of constitution, of habit, and of nativity, will answer in Mississippi as a general rule.

The excitement should be reduced as promptly as possible.

1st. *By bloodletting.*—If the patient be young, plethoric and athletic, or from a northern climate, with a full, bounding, strong pulse, bloodletting by the lancet to the amount of fifteen or twenty ounces in a sitting posture, from a large orifice, will produce the most immediate effect upon the arterial excitement. The object should be to produce as great reduction of the excitement as possible with as little loss of blood as practicable; hence twelve or fifteen ounces of blood rapidly drawn while the patient is in a sitting posture, will in most cases speedily induce a tendency to syncope, with a sudden reduction of the pulse. During the flow of blood the approach of this state is to be observed closely, and the patient should be placed immediately in a recumbent posture, and the arm tied up. If the system is very plethoric, and the constitution vigorous, in half an hour or an hour the pulse will regain its former strength and action; when the orifice is to be again opened and ten or twelve ounces more drawn as before. The pulse will yield sooner than at first, and its reduction will be more permanent and effectual; for it is seldom if ever necessary to have recourse to the abstraction of blood oftener than twice. If the pulse becomes active and quick in its pulsations, after the second bleeding, we may be assured we have already taken more blood than was required; and thereby have induced the *irritable* excitement instead of the open excitement. Hence the great advantage of taking blood rapidly, and in an erect or sitting posture in the first instance; so as to produce a strong impression with the loss of as little

blood as possible. The slightest irritation in the pulse after bloodletting should be allayed by a full anodyne of fifteen or twenty drops of laudanum, or 1-6 to 1-4 grain morphia, either alone or combined with ten or fifteen drops of tinct. hyosciam, nig: So soon as the patient recovers from the depletion, and the anodyne has been administered one hour, an active cathartic should be given in moderate and repeated doses. If the alvine dejections indicate a defective secretion of bile, with serous or mucous discharges and coated tongue, calomel and jalap will be preferable to most others: if the alvine dejections are frequent, and consist principally of thin yellow bile, the mild saline purgatives are best. Of these, in such cases the common dose of infusion of senna fol. manna, and sul. magnesia, divided into repeated broken doses, is superior to most others. The operation of course should be promoted by a free use of diluents. This purgative is infinitely superior to simple saline or resinous purgatives in simple bilious fever.

If the excitement be of the irritable kind, attended with a quick pulse, moderately full but not tense, the excitement should be allayed by anodynes and narcotics, to the entire exclusion of bloodletting, which would only aggravate the irritable excitement. So soon as this is in some degree accomplished, the use of laxatives or mild purgatives should be commenced. Drastic purgatives will tend to excite greater irritation in the alimentary canal and aggravate the general irritable excitement. In this irritable excitement, if profuse *bilious* discharges are such as to debilitate, drastic purgatives should be avoided; and opiates combined with mild saline laxatives should be administered; and thus repeated in moderate doses every hour for five or six hours, or until six or seven drachms of sulph. mag. and fifty or sixty drops of laudanum, have been taken, we obtain a more salutary evacuation of the bowels, while the irritability is allayed.

On the other hand if this irritable condition of the nervous and arterial systems is attended with a *torpid* condition of the bowels, and with a suppression of biliary secretion, our purgative should consist principally of calomel combined with some powerful aromatic, such as capsicum, zingiber, or oil of black pepper. This rouses up the circulation and sensibilities of the stomach and bowels, while the calomel exerts its influence upon the functions of the liver. When it is necessary to administer calomel for suppressed biliary secretion, it should be administered in doses of ten or fifteen grains every two hours until the secretion of *green bile* is excited; when the further use of calomel should cease, and be succeeded by a gentle saline laxative or oil. In this administration of calomel, if the tongue be moist, and pale, or white, the addition of four or five grains of capsicum will facilitate its salutary effects upon the torpid liver.

I have thus dwelt more upon the use of stimulants and of narcotics or anodynes under this head, than upon bloodletting itself, because by their means the very object is effected in a great majority of cases, which would in vain be expected from bloodletting which is so often and so injudiciously used, in the early stages of our autumnal fevers.

There are other cases where the pulse is partially oppressed, and where the blood is thick and viscid, in which bloodletting, judiciously used, will prove an important remedial agent. In what cases and under what circumstances this should be resorted to, it is not my object to point out: elementary works on that subject give all the necessary rules for discrimination. My object is principally to guard inexperienced practitioners from being deceived in the necessity of *frequent* bloodletting in many of our autumnal fevers; when *irritable excitement* is often mistaken for open sthenic ex-

citement. When such mistake is made, the worst consequences may be apprehended; for every drop of blood drawn in such cases only adds to the irritable excitement already established. It is in vain, in those cases, to expect to reduce the action of the pulse by repeated bloodletting; for the mistaken irritable excitement becomes more aggravated after each bloodletting. Opiates are the only resource in such cases, if we except that important auxiliary, bathing the head in cold water. In many of these cases it will be essentially necessary to the welfare of the patient, to administer the anodyne in a small quantity of claret and water, weak brandy toddy, or some other stimulus, to sustain a proper circulation and tone in the stomach.

2. Emetics are often indispensable remedies in autumnal diseases: yet they should be used with great caution. Gastric and gastro-enteric irritations are so frequently consecutive symptoms in these fevers, that it is not without reason that many authors in the treatment of tropical diseases, almost discard them entirely. It is, however, not necessary to abandon a good remedy because some have used it improperly, and consequently produced injurious effects. A valuable remedy requires only more judgment in its administration. As gastro-enteric irritation or inflammation is of so frequent occurrence in the advanced stages of our autumnal fevers, emetics, as a general rule, should be used only in the first stage, while there is no structural disease in the tissues of the alimentary canal.

Where there is no *permanent* gastric irritation, or visceral inflammation, and where there is evidence of morbid secretions in the stomach, an emetic is certainly the first remedy that should be employed. In such case, even if the excitement be open and strong, an emetic will be the most suitable

remedy with which to begin the treatment; as the irritating matters being removed, the excitement may be reduced without unnecessary depletion. If the emetic is given during the first paroxysm, before the disease becomes confirmed in its character, the advantages derived from its operation will be far more important than when given in the second or third paroxysm: it thus not only evacutes the morbid secretions before they have produced *permanent* irritation, but it breaks up the morbid chain of associations, determines to the surface and equalizes the circulation. However, it is seldom necessary or proper to repeat the emetic in less than forty-eight hours, and generally not then.

When emetics are to be used, nothing is preferable to ipecacuanha or tartrite of antimony; the former in a single full dose, or the latter in small and repeated portions. After their operation is over, it will always be advisable to administer a mild anodyne, of fifteen drops of laudanum, or one-fourth of a grain or less of morphia. This will have a salutary effect in preventing the distressing irritation which is so apt to supervene in these fevers. Sometimes the stomach is irritable early in the disease, with constant retching and efforts to vomit, without discharging freely, although morbid secretions may exist; in such cases, if the tongue *be moist and whitish*, or covered with mucous, an emetic of ipecacuanha will often produce an immediate relief to the *irregular* action of the stomach, and be succeeded in less than half an hour by free vomiting. This I have witnessed so often, that I have, for several years, used ipecac. either in full doses, or in minute portions of half a grain every half hour, to allay the most obstinate gastric irritation. If the irritation has been of short duration, the emetic in full dose is preferable; but if it be of some duration, with red tongue, the minute doses, with a

small portion of morphia or laudanum, are preferable; and very often the same added to a weak solution of epsom salts, is still better. The following solution I have used with great advantage in those cases of febrile diseases in which the tongue becomes red, clean and dry; or red and moist, indicative of different grades of sub-acute inflammation of the mucous membrane of the stomach, viz:

℞. Sul. mag. ℥ij. or ℥iij.
Sulph. morphiæ gr. ij.
Ipecac. pulv. gr. vj.
Aqua pluvial: f℥vj. misce.

Dose, one table spoonful every hour or every two hours p. r. n. Sometimes it may be advisable to diminish the quantity of morphia, and give the dose every half hour, especially where the tongue is moist and coated white. If it be desirable to produce a laxative effect, the sulphate of magnesia may be increased.

Sometimes, in protracted cases of fever inclining to the congestive type, the stomach becomes torpid and charged with mucus and other morbid secretions, which not only act as a new source of irritation, but also prevent the salutary operation of medicines. In such cases the tongue is generally moist and covered with a thick brown fur, indicative of torpor in the stomach, although slight irritation may exist in the lower intestines. In such cases the operation of a brisk emetic is essentially necessary to discharge the morbid secretions, and to excite action through the large viscera of the abdomen; and yet, were a full dose of ipecacuanha administered without any preparatory steps, we might produce a sudden collapse of the weakened powers of life; or the emetic, failing to act speedily upon the stomach, might pass off by the bowels, and thus produce exhaustion. To guard against either of

these effects, I have prepared the stomach and general system by the following means, viz. by administering a wine-glassful of hot strong toddy, rendered pungent by the addition of capsicum or ginger, about fifteen or twenty minutes before the administration of the emetic, which should be given in one full dose, so as to produce its emetic effects suddenly without in any degree prostrating the vital powers of the system. I have pursued this plan with the most remarkable benefit in cases where the treatment had been temporising and the disease protracted; and yet, from the torpid condition of the stomach, and languid circulation, I am convinced that, without these precautions, I should have produced exhaustion or collapse without vomiting.

Where there is relaxation in the skin, langour in the circulation, accompanied with profuse biliary discharges, the free use of emetic medicines is improper, whether administered in full or broken doses. As Dr. Sanders, (on Liver, p. 176,) "In all cases where bile is secreted in too large a quantity, the use of emetics is improper: indeed, the action of nausea and vomiting increases its secretion." Dr. Johnson confirms the same by his testimony; he says, "Every one knows the effects of emetics and nauseating medicines upon the skin and perspiration; the same effects are produced upon the biliary secretion." (Trop. Clim. vol. 1, p. 275.)

Where the open excitement continues in the circulation, after proper depletion by bloodletting and purgatives, it will be advisable to administer the tartrite of antimony in broken doses, to keep up nausea and a determination to the skin, provided the biliary secretion be not already too profuse. If this excitement continue, and the biliary secretion be deficient, the following antimonial solution will be excellent to excite

secretion in the liver, at the same time that it reduces the excitement and determines to the skin.

℞. Tart. antimonii gr. 5.
Aquæ pluvial. f℥iv.
Tinc. Opii f℥iv. Mix.

Dose, f℥ij., to iij., every two hours, or oftener in urgent cases, until nausea is induced, or until the bowels are moved freely. If the excitement be of the irritable kind, this of course is not applicable, unless the quantity of laudanum be increased.

3. *Cathartics.*—In treating these fevers, I have always found it much preferable to administer cathartics in divided doses than in one single portion. By this mode of administration we avoid producing that irritation in the alimentary canal which would result from the same quantity given at a single dose; and at the same time we obtain the operation upon the bowels more effectively than we should do by one large undivided dose. After the operation of the emetic I have found ten grains calomel and ten grains jalap, given and repeated in two hours, one of the best purgatives in ordinary cases. Sometimes I omit the emetic, and add half a grain of tartrite of antimony to each of the above doses. This combination is one of the best purgatives in ordinary cases, where there is no profuse secretion of bile, nor an entire suppression of that secretion. The following combination also is excellent, where there is more nervous irritation in the general system, and deficient biliary secretions, viz:

℞. Submur. hydrarg. ℥jj.
Pulvis Antimonialis ℥ss.
Camphor. pulv. grs. iij.
Opii. pulv. gr. ij. Mix.

Divide into three equal doses—one to be taken every three hours.

Where the biliary secretion is excessive, the best purgative, after a full opiate, is the infusion of senna, manna and salts, taken in divided doses, every hour, until free purgation succeeds. This dose operates more effectually in removing the bile than any other, while it produces no effect upon its secretion, unless it be to restrain it. Indeed, in this variety of fever, the principal indication should be to *restrain the secretion*, while we evacuate the bile which is already secreted. The only way to restrain the secretion is to diminish the irritability of the liver and of the general system. This is to be effected by a liberal use of opiates and narcotics, judiciously administered. In these cases the administration of calomel is *exceedingly injurious*, as it increases the secretion, and thereby aggravates the disease.

When the excitement is violent, and the secretion of bile obstructed, we then must resort to the use of mercurial purgatives freely. One of the most valuable effects of calomel is its action upon the liver, in exciting biliary secretion; for which purpose it is more than equal to all other remedies we possess. If there be but little irritation of the bowels, and no serous alvine discharges, calomel, in doses of fifteen or twenty grains, combined with Dover's powder and camphor, may be administered every two or three hours, until *green gelatinous bile* is produced; but it should be discontinued so soon as this indication is perceived. I wish to enforce this point, as I have frequently seen the use of calomel persisted in, to the very great detriment of the patient, after this salutary indication of its action had presented. Whenever this *green, jelly-like bile* is produced, the calomel should be immediately discontinued, and some mild saline purgative administered to carry off this new acrid secretion. This being done, healthy yellow bile is sure to succeed. On the other hand, if the cal-

omel be continued beyond that point, it begins to excite a state of irritation, not only to the mucous membrane of the bowels, but likewise to the general system; by which convalescence will be greatly retarded. This fact I wish to impress upon the reader, for I have seen many respectable practioners who were in the habit of administering calomel so long as the green discharges continued; without reflecting, and apparently without knowing, *that these green discharges were the real and salutary effects of the calomel.* In infants especially, by such perseverance in its administration, I have seen the mucous surface of the alimentary canal so irritated that it was barely possible to allay it by the most unintermitted exertions: when the use is continued too long, the brain and nervous system partake of the irritation, and the patient finally sinks under the combined influence of disease and medicine.

Equally injurious effects have I witnessed in that irritable disease malignant *bilious fever*, in persons of intemperate habits. One case in particular is in point. The patient was a man about forty years of age, who had been addicted to occasional intoxication, besides a common free use of ardent spirits; he was attacked with bilious fever; the prominent symptoms were profuse discharges of thin yellow bile; extreme pain in the head, constant vomiting, quick irritable pulse, great muscular debility and inquietude. Mercurial purgatives were used, and the symptoms increased; the calomel was discontinued and the discharges of bile and the general irritation were partially allayed with opiates. A consulting physician was called in, and insisting upon continuing the calomel in larger and more frequent doses, I reluctantly consented to give forty grains every two hours until the bilious discharges should cease. The first dose seemed to aggravate

the symptoms; and after the second dose, the discharges of thin yellow bile by vomiting and catharsis was so extremely profuse, that speedy prostration seemed inevitable, unless it could be immediately checked. The calomel was immediately discontinued, and a large dose of laudanum administered by enema, as well as by mouth; this with stimulants and other means at length allayed the irritability of the liver and of the general system—and the patient finally recovered. In this case I do not hesitate to give it as my opinion that a few more doses of calomel would have proved fatal to this patient.

I do not presume to sit in judgment upon the errors of others, but I consider it my duty and my privilege to speak my sentiments freely upon the modern injudicious use of this valuable medicine. Of late calomel has been used and recommended so indiscriminately, and so injudiciously in all cases and in all grades of fevers, that it cannot be too severely reprobated by every judicious practitioner, who feels an interest for the honor of the profession or the welfare of his fellow men. It is to be regretted sincerely that such an extravagant use of it has been encouraged by writers and teachers whose high authority has given the practice a most mischievous currency.

From strict observation I am convinced that in all cases attended with *mucous irritation*, or inflammation in the alimentary canal, whether in bilious fever, or in dysentery, as an attendant symptom of autumnal and winter fevers, *calomel* is *decidedly injurious;* whether in children or in adults—but especially the former. The first impression of calomel is to excite the mucous membrane of the stomach and bowels especially of the duodenum, and induce an increased secretion of mucus to a greater or less degree; and when a patient is

laboring under a disease of which this mucus irritation is the predominant symptom, it is certainly strange therapeutics, to give those very articles which produce and aggravate this condition. Any physician who will lay aside his preconceived notions, that calomel is adapted to every opposite condition of the system, and who will observe strictly the progressive effects of calomel in such cases, cannot fail to perceive the pernicious effects. Yet strange as it may seem under the use of calomel, it is too commonly the case, that every aggravated symptom, and each progressive step in the disease, are considered only so many evidences of the *necessity* of perseverance in the administration of this medicine, to arrest the intractable disease. Cases of this kind are fresh in my mind, where, in violent cases of autumnal fever attended with extreme irritation of the stomach and bowels, calomel has been given in form of pills to the extent of forty grains every two hours, notwithstanding the irritation excited by each dose was such as to cause the stomach to reject and throw up these heavy pills from one to twenty-four hours after they had been swallowed, enveloped in tough mucus, thrown out by the irritated coats of the stomach to protect itself from the poison. Calomel is often given likewise to children and infants in doses double as large in proportion, where the disease is intestinal fever, attended with extreme irritation throughout the alimentary canal. Children not one year old frequently are compelled to swallow from fifteen to twenty grains of calomel every two or three hours for several doses; and often I have seen the most distressing cerebral irritation superinduced by its use; yet when this irritation was produced, it was termed hydrocephalus acutus, for which calomel alone was considered an adequate remedy. Cases of

infantile fever with intestinal irritation are the most frequent diseases to which children are subject in this climate; and in the advanced stages the particular symptoms are varied much by the treatment. A free use of calomel will be attended and followed by a train of symptoms depending entirely upon intestinal irritation inducing *cerebral* and general irritability. The most violent and rapid case of hydrocephalous symptoms which I have ever seen was produced by extreme cerebral irritation dependant upon intestinal irritation. The contracted pupil, jactitation, intolerance of light, frequent dejections of bloody serum, mucous and even blood in large quantities, and tenesmus, in this case, were relieved principally after many remedies had been unavailing, by cold affusion over the head, slowly and perseveringly used, together with anodynes by mouth and by enemata. The effect of the cold affusion was sudden, and astonished all who witnessed its effects; the infant had not rested five minutes in twenty-four hours and was supposed by all present to be only a few removes from its last struggles, when the affusion almost instantly calmed the cerebral and general irritability, the bowels even were allayed, and it slept soundly for more than an hour. Cases might be multiplied were it necessary. In August and September, 1838, a catarrhal bilious fever spread over a great portion of Adams County, beginning in Natchez, and was confined especially to children under five years. This was simply infantile *bilious fever*, with catarrhal symptoms superadded. The irritation primarily located in the bronchial tissues, upon the use of calomel speedily became transferred to the alimentary canal; and many fatal cases occurred, especially in the calomel practice.

There are other cases, where extreme irritation of the stomach proceeds from *duodenal inflammation*. It is upon

the duodenum especially that calomel exerts its powerful influence in exciting the torpid liver to an active circulation, and secretion of bile: and when the *duodenum is inflamed calomel increases that inflammation*, and literally acts as a poison to its inflamed coats. The duodenum has a peculiar sensibility to calomel; and by this peculiar sensibility, does calomel exert its beneficial effects upon the liver. Hence when the duodenum is inflamed, nothing is more irritating to its coats than calomel. When the duodenum is inflamed, it produces the most deadly sickness and sense of prostration, with frequent efforts to vomit; tenderness over the region of the epigastrium; thirst, rejection of almost every thing taken, even many hours after it is swallowed; nothing seems to pass through the stomach, and the pylorus seems permanently constricted, so as to prevent the passage of all ingesta. If the duodenal inflammation be severe or protracted, the skin assumes a yellow tinge. This latter symptom indicates duodenal inflammation, whatever may be the general disease, whether *bilious fever, jaundice or yellow fever.*

So numerous are the cases, to the treatment of which calomel is not adapted, that I may be pardoned for dwelling more fully upon it, than might appear necessary with so trite a subject. It becomes every physician, who wishes to advance the interests and utility of medical science, to pause and reflect upon the injury which may be produced in his hands, by a presumptuous confidence in a remedy which cannot be adapted to every case; lest he be guilty of adding a destructive poison to the list of human woes, by converting a valuable remedy into a means of destruction.

It is too common for physicians who remove to the south to practice their profession, to bring with them, or soon afterwards imbibe the prejudice that calomel is the only remedy

that is applicable to our summer diseases. To a certain extent this belief may be correct; but there are many exceptions. It is no uncommon occurance for such physicians to boast of the large amount of calomel given in the short period of twenty-four or forty-eight hours, in malignant fevers, and to express utter astonishment that it was possible for the patient to have died with such a quantity of calomel in them. It is no uncommon case for patients thus to have taken from one hundred and fifty to two hundred grains of calomel in twenty-four or thirty-six hours. I repeat that wherever there is duodenal inflammation calomel is not only improper but *injurious.*

When the duodenum is *not* inflamed, calomel administered perseveringly produces an irritated condition of the larger intestines, which is followed by an irritable condition of the whole nervous system: the bowels become charged with large quantities of green bilious matter and acrid mucous secretions, which alone are sufficient to produce the most distressing symptoms. Instead of mild laxatives and opiates to carry off the morbid or acrid secretions and allay the intestinal irritation, this green bilious matter is considered a strong indication for the further use of calomel.

There is another object for which calomel is used by those who practice in the south, viz: to produce ptyalism, or to produce its constitutional effects upon the system generally. Whatever be the disease, it is to be eradicated by mercury; whatever be the grade of fever the great object with them is to effect salivation, when the disease must of course yield. Yet who has not seen patients die of febrile diseases, while the system was charged with mercury? And how many have been compelled to linger out a miserable existence from its effects upon the constitution? The idea

of curing a malignant fever by substituting the mercurial action, is fallacious and absurd. I fear not to hazzard the assertion, that in our rapid autumnal fevers, it is impossible to establish the mercurial action, until the febrile action is first subdued by other means, or declines from having run its course. To establish the mercurial action after the febrile excitement is subdued, is only to protract the period of convalescence, by producing another morbid excitement, which the system must overcome.

Yet I repeat, calomel, when properly used, is one of the most valuable and efficient remedies in the materia medica. As has been appropriately said, it is the "Sampson of the materia medica, and like Sampson, it has slain its thousands," when its strength has been wrongly directed.

As a general rule, calomel is contra-indicated in all cases where the tongue is *clean and red;* whether it be smooth and dry, or smooth and moist; also, where the tongue is *dry and rough*, whether it be brown or red. In all cases these appearances of the tongue indicate different grades of mucous inflammation of the intestinal canal, and in all the use of calomel or quinine is decidedly pernicious to these surfaces.

4. *Cold Affusion.*--I place this remedy first in the list of febrifuges, for the treatment of our summer and autumnal fevers in their first stage, and even later. But especially is it applicable to such as are attended with open or irritable excitement and preternatural heat. In ardent fevers, the advantages of general cold affusion are too well known and admitted to require more than a passing remark; and it should be used under the circumstances and rules laid down by Dr. Currie and others. But in these remarks I wish to confine myself especially to the importance and utility of cold affusion *over the head*, as a powerful agent in the reduction of ir-

ritable excitement, as well as that which is more open. As has been observed before, many cases of our summer fevers seem to depend upon an irritable condition of the circulating system more than upon sthenic excitement. And this irritable condition doubtless proceeds from an *irritable condition of the brain*, although not often suspected. The *brain is* the principal seat of the irritation; and the circulation, and even the alimentary canal, takes on a consecutive irritation proportionate to the primary irritation of the brain; and when the irritation of the brain is allayed by cold affusion, these consecutive symptoms abate. It is not, in all cases of this kind, that the temperature of the head is greatly increased; for in these irritable cases of fever, especially in children, the temperature does not increase in proportion to the irritation, as is the case in inflammation. Yet, when the temperature of the head is reduced permanently, the general and local irritability ceases: and there is no mode of reducing the latter more certain and speedy than by reducing the former. Purgatives, antimonials and other febrifuges, may indirectly reduce the excitement; but not unfrequently they increase the irritability upon which that excitement depends.

In children, during the summer months, many cases of fever assume the general characteristic symptoms of the last stage of *cholera infantum*, and *hydrocephalus acutis*, in its most distressing form. Although the temperature of the head is but little increased in these cases, the irritability of the brain and nervous system is most distressing, and may often be speedily relieved by the affusion of cold water over the head. In one of the most rapid cases I ever saw, of a child six months old, the distressing irritability of the brain, attended with constant vomiting, with mucous and copious bloody alvine discharges, contracted pupil, constant gyration of the head, and

even spasms, was in half an hour relieved, with all the attendant symptoms, by the affusion of *cool water over the head.* The irritation of the bowels subsided as soon as the affusion had been freely used to the head; although none of those symptoms had been alleviated by a persevering use of internal remedies for twenty-four hours previously.

Too much attention cannot be given to the condition of the brain in treating most of our summer fevers: and when the brain is found to be highly irritable, as a prime cause of fever, the simplest remedy in nature is the most effectual in reducing it; and that is cold water. With the aid of cold affusion to the head, we may bring the most alarming train of symptoms within the control of other remedies; where, without it, our remedies would be unavailing.

There are many obstacles to the use of general affusion in fevers, which are not applicable to partial affusion, or affusion over the head. I know of no insuperable objection to the latter, except when the system is charged with mercury; at such time cold water freely affused upon the head might be productive of the most distressing consequences.

The mode in which I use the cold affusion to the head, is, by pouring from the spout of a pitcher, in a very small stream, water of the ordinary temperature, between 64° and 80° Fahrenheit. The head is to be held over a basin and rubbed with a wet towel while the water is first affused. This causes the water to permeate the hair and come in contact with every part of the scalp. The affusion is continued in a very small stream passing the jet alternately over every part of the head for about five or ten minutes, when the head is to be wiped dry. The application of the water in this manner should be continued until the surface of the head is thoroughly cooled to the temperature of the water. If there has been great and

obstinate heat in the head, the temperature will return as high as ever in half an hour; when the application of the water must be resumed without intermission, for ten or fifteen minutes, in a continual stream, as before. There are very few cases in which it will be requisite to repeat the application so thoroughly more than three or four times. After such reduction, the temperature will remain nearly at the natural standard, especially if succeeded by small opiates.

I consider it a material point to affuse the water *slowly*, so that it may gradually permeate the hair, and come in actual contact with every part of the scalp; and the stream or jet of water should be but little larger than what would pass through a common goose quill. The application of pounded ice, and cloths wet in refrigerated solutions, is not half so beneficial as the use of water at a temperature but a few degrees below summer heat; or about 70° or 80° Fahrenheit. When the temperature is at or below 60°, the shock is such that the patient is injured instead of being relieved; and the internal excitement of the brain is much better allayed by water at a higher temperature.

I must reiterate that, in *bilious fever*, the most prominent symptom is an irritable condition of the *brain and liver;* and that the primary seat of the disease is in the brain. To the irritable condition of this organ, principally, must be ascribed the intense pain in the head and the vomiting, which is often so distressing; the rapid gaseous pulse, and many other most alarming symptoms. Of these, one of the most formidable is the obstinate and profuse secretion of yellow bile, which continues until the whole surface is tinged yellow, and the vital fluids are impoverished beyond the power of sustaining life. This condition becomes daily aggravated, until delirium and death close the scene.

This state of things, in the early stage of the disease, is allayed more by permanently reducing the temperature of the head by cold water, than by any other single means. Opiates, as before observed, are indispensable; and saline laxatives to carry off the morbid secretions. Opiates are too much neglected by many in treating these cases, from a prejudice against its use. This prejudice is founded upon an error in judgment, whereby irritable excitement is confounded with sthenic excitement; and the action of opium itself is not understood.

A case now occurs to my mind which was certainly beyond the agency of all known remedies except cold water affusion. The patient was an athletic young man of about thirty-five years of age, of sanguine temperament, and addicted to occasional intoxication. When in this state, the determination to the brain was uncommon, and was invariably attended with a species of delirium. This patient, towards the last of September, was attacked with *bilious fever;* with great determination of blood to the head, and extraordinary heat in the head. After the general circulation was reduced by bloodletting, purging, &c., the heat of the head continued unabated by every means used for its reduction, including even cold affusion moderately used. Finally the cold affusion was used for fifteen minutes at a time, and repeated every hour for at least twenty hours, when the generation of preternatural heat in the head was subdued, and with it the intractable grade of fever which seemed a consequence. For the first fifteen hours, the head would be as hot again as ever within half an hour after each bathing; and the heat was finally subdued by more perseverance than I have ever seen requisite in any other case.

In this case the bilious purging and vomiting were inces-

sant, the eyes red and watery, and the pain in the head excruciating. Nothing appeared to relieve the inflammatory determination and irritation of the brain but the continued use of the cold affusion; and without it he must have died.

5. *Blisters.*—In most cases of fevers, in this climate, there is, either in the early or advanced stages, more or less irritation or sub-acute inflammation in the mucous membrane of the stomach or bowels. Sometimes this will be co-extensive with the attack; and at other times it may be induced by such remedies as may appear necessary in the treatment of the case. Whenever it exists, and from whatever cause, it serves as an additional source of febrile irritation to the general system; sometimes it proves a very troublesome symptom, and to a certain extent precludes the administration of internal remedies. Accordingly it becomes an object of primary importance to prevent the occurrence of such irritation, as well as to remove it, when it has once occurred. For this purpose it is generally advisable, and sometimes indispensably necessary, after the usual depletion by bloodletting and cathartics, and other remedies adapted to the first stage, to apply a large blister over the region of the stomach or abdomen; especially if the train of febrile symptoms is not greatly arrested within the first twenty-four or thirty-six hours. If the blister be thus applied, as soon as it is found that the febrile action is not subdued by the first remedies, and before any permanent irritation is established in the alimentary canal, it will certainly exert a more happy influence upon the disease than if deferred until the irritation becomes established. The irritation which is thus about to be located in the intestinal canal, will be transferred to the surface and be more transient and less injurious; while at the same time it affords a better opportunity of administering internal remedies than

would otherwise present. By this means the violence and duration of attacks of fevers are often limited; and such tonics as may be deemed necessary during convalescence can be more safely administered. But, should blistering be deferred until the irritation is established; until the tongue becomes *clean* and *red*, and even dry and glabrous, the beneficial effects of the blister will be less immediate and less perceptible. For these reasons I advise the early application of a large blister to the epigastrium, so soon as it is perceived that the disease is not disposed to yield to the first common remedies. Thus we anticipate and prevent the occurrence of a symptom which retards recovery and convalescence more than any other.

Sometimes, also, there is some degree of inflammation in the *peritoneal coats* of the abdomen and intestines, from the onset; as well as that which often occurs in the advanced stages of all continued or remittent fevers. The slightest tenderness to pressure over the abdomen should warn us of this condition of the peritoneum. In such cases blisters are good and most commonly used; but the most important benefit will be experienced from scarifying and free cupping. This latter is a remedy of very great advantage in internal inflammations, and is entirely too much neglected by the faculty in their common practice. Were it more used, the benefits obtained from it would more than balance the trouble and time requisite in their use. The effect is incomparably greater than that to be obtained from blisters or leeches.

This sub-acute intestinal inflammation in the *progress* of fevers, can not be too closely observed; for it often approaches so insidiously that it is established before its approach is suspected. Hence frequent examinations are requisite, to ascertain the existence of the slightest soreness or tenderness to

pressure upon the epigastrium or abdomen; for the *pain or soreness* is often so obscure at first, that it frequently escapes a hasty and partial examination, and often bears a very small proportion to the actual inflammation, or structural læsions. Dr. Armstrong observes relative to "secondary inflammation," "that the sensibility of the nervous system is mostly somewhat diminished *before* the occurrence of inflammation. This secondary irritable inflammation, if not speedily counteracted, rapidly proceeds and keeps up a constant irritation in the nervous and arterial systems, until the case is beyond the hope of recovery; and often being *mistaken for sthenic excitement*, every remedy administered accelerates the catastrophe; and the practitioner is astonished to find his patient sinking under an excitement, apparently without local origin, which he is unable to subdue."

Whenever febrile irritable excitement continues more than a few days without any apparent equivalent cause, it may be suspected strongly that sub-acute intestinal inflammation is wasting the energies of the system; and the most prompt means must be resorted to immediately. A doughy feeling of the abdomen upon pressure will prove the fact unequivocally, whether much pain be present or not. Counter-irritants, but specially scarrifying and cupping over the whole epigastric and abdominal regions should be used freely and repeatedly, as infinitely superior to blisters; which are apt to increase the general irritation.

Blisters to the head, neck and extremities are too often used where the foregoing symptoms prevail; and where the intestinal irritation removed other symptoms will subside. I have seen blisters thus applied to overcome *irritation* of the brain and general system, which would have been speedily relieved by a laxative followed by an opiate in a little weak

ginger toddy. As before remarked, we often find cases of prostrated fever, which by a free use of purgatives or other antiphlogistic medicines, have become cases of debility and irritation; which, if the bowels have not been neglected, will require only rest, anodynes and gentle stimulants of weak brandy toddy. Thus the tone of the circulation is sustained, and the nervous irritation calmed: the reverse would be produced by the antiphlogistic treatment. Calomel especially is pernicious; but opiates in small quantities and of the mildest preparations are indispensably necessary: the prejudice which obtains against them is applicable only to large doses, when administered in improper cases. The most salutary mode of exhibition in most cases is by enema; so that the anodyne effects are obtained without impairing the tone of the stomach. This mode is especially adapted to those cases which are attended with great irritation of the mucous membrane of the lower intestines.

6. *Sulphate of Quinine.*—A few remarks on this powerful febrifuge may not be superfluous. This medicine evidently possesses the properties of subduing febrile action when it does not depend upon local irritations. It is adapted to the treatment of open fever, where the necessary depletion and evacuants have been properly employed. But it is inapplicable in *bilious* fever, or in fevers with gastro-intestinal irritation. In bilious fever the head suffers much from full doses of quinine; and where there is a tendency to intestinal irriation, the quinine speedily produces dryness in the mouth, with a dry red tongue, and general irritation. It is to be regretted that some physicians, influenced by preconceived notions rather than by observation, are in the habit of giving quinine in doses of from five to ten grains every three or four hours, in every variety of fever, and with but little previous prepa-

ration. Doubtless it is much safer to use it thus freely in the early stages while there is no established local irritation, than subsequently when these irritations become located.

The calisaya bark either in substance or in infusion is far less apt to excite intestinal irritation than the quinine; in all cases it is equally efficient in producing a remission of fever, and never excites an irritable state of the arterial system. It possesses all the febrifuge properties of the quinine, together with some valuable aromatic property which corrects any of the irritating effects produced by quinine alone. In combination with the bark I use some aromatic as ginger, pimento, or a small portion of capsicum; and to each dose add from five to ten drops of laudanum. This combination is admirable in *bilious* fever, in which quinine is entirely inadmissible. It is unnecessary to say that the calisaya bark certainly possesses properties very different from those of common cinchona. In cases of bilious remittents, after previous evacuants, I have often given the calisaya bark with a few drops of laudanum and some aromatic, with the best effects even *during the febrile excitement.*

I will close this article by a few remarks upon the appearance and indications of the tongue in febrile affections. In the treatment of these fevers in all their stages, the *tongue is the great index*, and it should be our criterion in the administration of all our remedies. By it we are enabled to judge of the condition of the stomach and bowels; and of the adaptation of our remedies to the case and of the changes necessary to be made in such as we employ. This index is too seldom consulted in prescribing; and what is still more to be regretted, it is too little studied, and its indications too little known when it is consulted.

From the best observation which I have been able to make

in these fevers, the following is the result of my experience as to the indications of the tongue.

1. *A pale moist tongue*, covered with mucus, indicates great torpor in the portal circle, or in the cæliaca; a languid circulation and functional torpor in the viscera of the cæliac circle, especially the stomach and liver; sometimes torpor of the brain also exists, with deficient mental energy. In such cases, whether in the beginning or in the advanced stages of all fevers the free exhibition of aromatic stimulants is proper, and necessary so long as the tongue continues moist and pale. The most appropriate stimulants are capsicum, ginger, oil of black-pepper, and calomel: the latter should be combined with either of the aromatics. If the tongue begin to assume red edges, or become red and dry on its surface, whether rough or smoother, the stimulants of every kind should be discontinued; and demulcents and mucilaginous drinks substituted; and as medicines, weak solutions of neutral salts, &c. The incipient redness indicates a change of condition from torpor to one of increased action or increased sensibility. So long as the tongue continues pale and moist, the capsicum and calomel are applicable; but after that ceases neither calomel nor stimulants are proper.

2. *A white tongue*, or a tongue of its natural healthy color, but covered over its surface with a fine white fur, not unlike white powder sprinkled over it, indicates a less degree of visceral torpor, and some degree of irritation in the mucous surface of the stomach. In such cases the stomach will not bear so free exhibition of stimulants as the white moist tongue; and a small quantity of opiate should be combined with any medicine. Calomel in such cases should be combined with opium and ipecac in small quantities; and mild opiates should be combined with all febrifuges.

3. *A red tongue*, moist and raw, indicates extreme irritation in the mucous membrane of the stomach, amounting almost to subacute inflammation of the same, but unattended with congestion of the collatitious viscera. When the other coats of the stomach participate in the inflammation the tongue becomes dry. This variety of tongue will bear only demulcents or mucilages, and other mild vegetable infusions, with mild opiates in very small quantities. As medicines, weak infusions of ipecac, sulphate of magnesia and tinct. opii, all in small quantities, are proper to allay the irritation. Alcoholic stimulants are injurious. Calomel is also injurious, and so is quinine in a high degree.

4. *A dry, red, chapped tongue* indicates that the inflammation is phlegmasial and affects all the coats. The treatment is the same. Scarifying and cupping over the epigastrium is very requisite; or blisters may be used—a free use of demulcents and mild astringent vegetable infusions are also beneficial.

5. *A red, dry, and smooth*, or glabrous tongue indicates a similar state of the coats of the stomach, but more especially of the mucous coat, differing probably only in degree.

The treatment requisite differs nothing from the others.

6. *A brown tongue*, moist and covered with a brown thick fur. This indicates a degree of irritation in the lower bowels while the action in the stomach is rather defective. This appearance of tongue is observed where irritation has been transferred from the stomach and small intestines to the large intestines or lower bowels. In cases of this kind saline purgatives, and such medicines as operate mildly upon the large intestines, are most applicable, together with such tonic vegetable infusions as may serve to rouse the action of the stomach in some small degree. In such cases, other circumstances

favourable, quinine would be proper. Resinous purgatives, and such medicines as act harshly upon the large intestines are improper. Scarifying and cupping over the hypogastric region may be necessary.

In the progress of any case of fever the indications of the tongue should be closely observed, and the remedies changed according to the varying symptoms of the disease; especially as it affects the coats of the stomach and bowels.

Washington, Miss., 1839.

ART. II.—*Surgical and Pathological Observations on the Eye.* By WILLIAM A. McDOWELL, M. D., of Louisville, Kentucky.

Note.—IN making the following communication, my chief objects are to make known a supposed discovery in the Anatomy of the Eye, and to give publicity to an operation, the *Section of the Conjunctiva*, which is believed to constitute an improvement in the surgical treatment of conjunctivitis. This I had at first designed to accomplish by appending cases operated upon to an article on the Surgical and Pathological Anatomy of the Eye; but, in reporting cases, it is necessary to give a summary of treatment, which, in some of my cases, was so discrepant from that of the standard authorities of the day, that I conceived it due to myself to assign my reasons for the difference. This I found I could not render intelligible, or satisfactory to the reader, without going into a demonstration of the adaptation of my therapeutics to the pathology in the cases, which would give to them an unwarrantable prolixity. To accomplish all of these objects, the present seemed to me the most eligible form, and if my efforts at condensation, to adapt such an essay to the limits of a pe-

riodical, shall not too far have sacrificed perspicuity to brevity, I trust it will prove the most acceptable to the profession.

In the following observations on the surgical and pathological Anatomy of the Eye, I shall mainly aim at the demonstration of two points in the structure of the conjunctiva, which I conceive to be of great surgical and pathological importance, but which seem to have been entirely overlooked by writers on the eye, both anatomical and surgical. These are, that the conjunctiva is double-coated; and that it is immediately and intimately connected with the ciliary processes, and through them with the internal structure of the eye.

The globe of the eye is made up of coats and humors. The coats proper, reckoning from without inwards, are, the sclerotica and cornea, the choroides and iris, the retina and lenticular capsule, and the tunica hyaloideia. These tunics are all either connected with, or arise from, the ciliary body, an elevated vascular ring, situated at the junction of the sclerotica and cornea; and are here intimately united with it, and with one another—constituting this, in a pathological point of view, a most interesting part, being a common point of union between all the important structures of the globe.

Thus far I am in accordance with all authorities on the subject, who have been minute in their examinations and descriptions of those structures. But to the conjunctiva, the internal tunic of the palpebræ, and the external coat of the anterior hemisphere of the eyeball, they appear to have devoted but little attention; although, from its exposed situation, its highly vascular and nervous structure, and from the great variety of injuries and diseases to which it is liable, it would

seem to be of more surgical and pathological importance than any of the others. The conjunctiva is composed of *two laminæ, a mucous, and a fibrous*, which may be dissected apart with but little difficulty. In the eye of the ox they are separated with great facility. The outer, the mucous coat, is but little vascular, exhibits no red vessels even in high states of conjunctivitis, except when being covered with granulations, and they then appear tortuous and reticulated, as seen in other granulating surfaces. The inner, or fibrous, which is so nervous as to have rendered the tenderness of "the apple of the eye" proverbial, is also extremely vascular. Many of those vessels are seen filled with red blood, radiating towards the cornea in eyes in the healthy state; but in intense conjunctivitis, when red blood is thrown into the smaller ramifications, its vascularity is sometimes such as to exhibit the appearance of a ball of fire.

It is between these coats, and not between the conjunctiva and the sclerotica, as has been taught, that effusions occur in chemosis, separating and protruding a fold of the mucous coat over the cornea.

In the eyes of bullocks, that had been knocked on the head with an axe, I have met with highly injected, and with ruptured vessels and ecchymosis near the cornea; the consequence I presume of the concussion.

With the the point of a probe, I have separated the mucous coat and raised it off of the effusion, and washed it away—leaving the injected vessel entire, and embedded in the subjacent thicker fibrous coat. Raising this fibrous coat, brings to view (the tendinous expansions) the albuginia.

The conjunctiva is loosely attached by cellular tissue to the subjacent albuginia, and is easily separted from it with a probe, up to the margin of the cornea. Here the point of the

probe meets with resistance from a connection so firm, that if forced forward, it ruptures and passes through the conjunctiva. But raise the conjunctiva to the cornea, and at the line of junction of the cornea with the sclerotica, divide with a knife a vertical fibrous structure, to the breadth of about a fourth of a line or less; then push on the probe, and it will pass on under the membrane over the cornea, as easily, as it passed up to it, until it reaches the opposite side, where it again meets with resistance; but so much less, that if it is cautiously urged on, it may pass out from the cornea without rupturing the pellicle that invests it. On emerging, the probe is found between the mucous and fibrous coats of the conjunctiva. This vertical structure is believed to be constituted, at least in due proportion, of nerves and blood-vessels that perforate the coats at the junction of the cornea with the sclerotica, and intermingle and inosculate with the internal structures at the ciliary body. The following pathological facts in the nervous system favor this opinion.

Intolerance of light is one of the premonitory symptoms of conjunctivitis; it is found connected with the irritable, the nervous stage of the disease before any vascular congestion or inflammatory action is manifested; and when inflammation is fully developed and the consequent secretion of mucus or of pus supervenes and lessens the nervous irritation, intolerance of light diminishes or ceases. There is even some reason to beleve that the sensibility of the iris solely depends upon nervous fibres from this source:

1st. Because there would seem to be no need of sensitive nerves to any of the other inner structures.

2d. Because punctures of the retina and choroides made by oculists have been unattended by pain.

3d. Because diseases of internal structures, when confined

to one eye, have gone on to perfect blindness, affecting the iris in the progress of disorganization, to the production of immobility, and even to the closure of the pupil, unaccompanied either by pain or intolerance of light; sometimes without the patient's knowledge that disease existed.*

4th. Because internal pain is speedily relieved by a complete division of the conjunctiva around the cornea.

The following phenomena in the vascular system support the opinion:

In moderate degrees of conjunctivitis, many vessels carrying red blood are seen coursing over the surface of the globe of the eye to the cornea, and there stop short abruptly. Others, in more severe cases, are seen to extend over the cornea, but the corneal extension is constantly much diminished in size, seldom equalling half the size of the same vessel without the circumference of the cornea. At the cornea, too, they present the appearance of an enlargement, such as is generally observed in other vessels at points of bifurcation. In vehement conjunctivitis we see the inflammatory action extending to and through the inner structures of the eye with great rapidity; in a few days, producing iritis, retinitis, cataract, and amaurosis; followed by rupture of the cornea, closure of the pupil, synechia anterior, and staphyloma.

This intercommunication—this inosculation—between the vessels of the conjunctiva and the internal structures, is still more strongly manifested in cases of primitive internal inflammation; as in iritis and retinitis, in which cases a red zone of vessels is seen all around the cornea, arising out of its line of junction with the sclerotica, and radiating divergently back, lessening as they proceed.

This zone is treated of, and its appearance accurately de-

* See Lawrence on the Eye pp. 233, 252.

scribed, by all the authorities that I have had an opportunity to consult; but they all, in every instance, locate it in the sclerotica. I have often met with this zone, in cases of internal inflammation, or incipient amaurosis. The congestion was always in the conjunctiva; and local bloodletting, by scarifying the vessels of this zone has appeared to me, in some cases, to have constituted a very efficient part of my treatment.

Mr. Lawrence, speaking of iritis, says, "there is more or less external redness of the eye in the form of a red band round the cornea, deeper colored in front, and gradually shaded off behind;" and again, in the same paragraph, "the pink tint of the inflamed *sclerotica*, and of the trunks lying on it, which is obscured in all inflammations of the membrane, is probably owing to their being covered by, and consequently seen through the conjunctiva. These vessels advance in nearly straight lines from the *circumference of the globe*, ramifying toward the front and are lost in the pink zone. The redness of the *sclerotica*, and the distension of its trunks increase as the affection proceeds."

In such descriptions all the authorities that I have access to concur, and in terms so similar, that they seem almost to have copied one from another. I quote the words of Mr. Lawrence from among them, only because he is one of the most modern, and most eminent writers on the subject. They all likewise advert to the disorganization of the inner structures, from conjunctivitis pretty much as I have described them; but all agree in first involving the *sclerotica*, and thence deriving the internal disease. Why they have done so I cannot tell, unless it was that they knew no other mode of bringing about the direct vascular intercommunication between the outer

and inner structures, which they so palpably discovered to exist.

From the meagre supply of nerves and blood vessels to the sclerotica, I should suppose sclerotitis to be a most rare disease. I have never met with a case of it, that I am aware of, although I do not doubt its occasional occurrence. Others may have observed it, but I do not consider it at all probable that many persons, if any, have *ever seen* an inflamed sclerotica, except in a *post mortem* examination.

Writers in their descriptions of those vessels, allude to their pink color, as caused by their being seen through the conjunctiva. Now the sclerotica is not in contact with the conjunctiva. The tendinous, and less diaphonous albuginia intervenes, and a probe, passed under a muscle of the eye on towards the cornea, as far as its insertions near the cornea will admit, cannot be seen through these two membranes, even in their healthy and most diaphonous state, unless it be pressed against them so as to attenuate their structure. How then, in conjunctivitis, where the membrane is thickened, turbid, and covered with granulations, can we see a vessel in the sclerotica? I conceive it must have been the vessels in the fibrous coat of the conjunctiva, seen through the thickened mucous coat, that have deceived and misled the writers on this subject, the vessels appearing deeper, and becoming less distinct, and paler, as the granulations increased, and the mucous tissue thickened.

The settlement of this question of structure is important—pathologically, as demonstrating the *mode* of the already known internal connection, that exists between diseases of all the structures of the eye with conjunctivitis, in the relation either of cause or effect—therapeutically, as affording to

the surgeon an accessible medium through which to operate upon internal diseases of the eye by external applications, and putting it fully in his power, in case of external disease of such intensity as to threaten important internal structures, to cut off communication, and arrest its progress by the *section of the conjunctiva.*

Conjunctivitis.—From inflammation of the conjunctiva nearly all the diseases incident to the eye and its appendages originate. Loss of vision is more frequently consequent upon diseases of this membrane as a primitive seat, than upon those of all the other structures of the eye taken together. Yet less attention seems to have been paid to its structure and connexions than to those of any of the others. Its attachment to the surface of the cornea, and its important inosculations around it with internal structures, and its double structure, have not been attended to, probably not looked for whilst much ability and research have been devoted to the division and separation into laminæ of internal structures that seem to me to be of immeasurably less importance.

To exhibit the pathological and surgical advantages that may be derived from closer attention to the structure and connexions of the conjunctiva, is the chief object of this essay.

This, I conceive, will be more readily apprehended from a consideration of some of its most prominent idiopathic diseases, and as this is the only mucous membrane that is connected with the globe of the eye, and in order that no misapprehension may arise about the locality of the primary disease, I shall restrict myself to the consideration of such disorders as are generally admitted to be incident exclusively to mucous membranes, viz: catarrhal, and purulent or gonorrhœal.

Catarrhal conjunctivitis — Causes.—Catarrhal opthalmia

generally owes its origin to atmospheric vicissitudes, as sudden changes from hot to cold, from dry to moist, &c. The conjunctiva is alike subject, though not in an equal degree liable, to catarrhal affections, with other mucous membranes, as the schneiderian, tracheal, and bronchial. In influenzas, those membranes are sometimes all thrown into catarrhal inflammation at the same time.

Symptoms.—In considering the symptoms, the course of treatment to which I give a preference, both in catarrhal and purulent opthalmia, will render it expedient to consider them in three different aspects or stages, which I will denominate the irritable, the active inflammatory, and the passive inflammatory. As the terms irritation and inflammation, are by many writers employed as synonymous it will be best here to define the meaning I attach to them.

The irritable, is the spasmodic, or nervous period of inflammatory action, characterized by pain only, the part seeming paler rather than redder. The active inflammatory is the period of increased vascular action in the irritated part, and is the result of reactions from the spasmodic or irritable stage. It is characterized by pain, redness, heat, and swelling. The passive inflammatory stage, is the period of debility or exhaustion, arising from long continued, or excessive action and vascular distention. It is characterized by disorganization, or change of structure indicated by diminished pain, darker red, less heat, and more swelling.

The first or irritable stage is marked by a sense of dryness, stiffness, and a sensation as if particles of sand were between the palpebræ and the globe, and an unpleasant sense of tightness, with intolerance of light; but that which most distinctly marks the duration of this period, and which generally lasts from twelve to thirty-six hours, is the suspension of the

secretion of mucus. The lachrymal gland, excited by the neighboring irritation, discharges frequent showers of tears over the unprotected surface, producing a scalding sensation, and increasing the irritation. These incipient symptoms go on increasing in intensity, until pain and intolerance of light become very severe, the irritation of distension becoming superadded to that of the primitive irritant, until the appearance of redness and congestion of the hitherto colorless membrane, indicates the commencement of the second stage.

Redness and congestion, the first indications of this stage, commence in the conjunctiva palpebræ, and progress more or less rapidly, according to the violence of the disease, until in most cases it extends quite over its orbicular expansion to the cornea, assuming, in its whole extent, a bright scarlet color; and, during the progress of this congestion, the secretion of mucus returns, and the weeping ceases. With the progress of mucous secretion, the pain and intolerance of light subside. During this stage, the redness becomes less by day, and the pain and intolerance of light remit and cease; towards evening, smarting, a sense of fulness, and increase of redness come on and increase through the fore part of the night, with diminished mucous and increased lachrymal secretion. Towards morning the exacerbation subsides, with a considerably increased flow of mucus.

The disease thus progresses, generally becoming milder in each succeeding paroxysm, and with proper treatment, and in mild cases sometimes even without treatment, terminates by resolution. It rarely goes beyond this stage, but sometimes, in bad cases, or in cases under mal-treatment, the discharge changes to muco-purulent, and the pain and intolerance of light increase, until diseased action is extended to the cornea, iris, and lens, as occurs in purulent opthalmia. This

unwonted violence, or a neglected and protracted state of the active inflammatory stage, sometimes exhausts the contractility of the congested vessels, and relaxes them to such a degree that, when increased arterial action has subsided, they remain sluggish and relaxed, and are kept distended by the natural *vis a tergo*, and present the characteristics of the third or passive inflammatory stage. This is characterized by redness of the membrane approaching to crimson, chemosis, tumid palpebral margins, sometimes resulting in ektropion, suppuration and granulation of the surface of the conjunctiva, a nebulous cornea, internal disorganization and total blindness.

TREATMENT.

The obvious objects of treatment in this disease are, first—to prevent the occurrence of inflammation, by interrupting irritation and by restoring functional secretion; second—to remove inflammation; third—to prevent or arrest disorganization.

First stage.—If consulted at an early period of the disease, before vascular congestion has become very evident, a full purgative dose of neutral salts, followed in two or three hours by full draughts of acidulated whey or panada, and by the application to the eyes of 20 or 30 drops of tinct. opii, will but rarely, if ever, fail to arrest the disease. If vascular congestion has somewhat advanced, and is accompanied by increased general arterial action, the eye being still in the stage of lachrymation and deficient mucous secretion, the above treatment should be premised by bloodletting. The salts and the hot drink arouse the secreting functions of the alimentary canal and of the skin; and the conjunctiva, being a muco-cutaneous membrane, and directly connected by continuity of surface, both with the mucous coat of the alimentary canal and the

skin, is thus doubly stimulated by associated action to a resumption of its secretory functions. The purgative operation at the same time relieving congestion, by producing a tendency of the circulating blood from the head to the messentery; whilst the local application promotes the end, by acting at once as an anti-spasmodic and a powerful counter-irritant. In the prevalence of epidemic conjunctivitis, as in opthalmic influenza, I have enjoyed the opportunity of thus treating the disease in this stage, with the most perfectly satisfactory results.

Second stage.—In the treatment of this stage, too little importance, I conceive, has been given to the paroxysmal character of the inflammation. As marked advantage is derived here from the proper adaptation of remedies to the periods of remission and exacerbation, as from corresponding observations in the treatment of fevers.

The general treatment consists in bloodletting, as often repeated and to such extent as is requisite to keep general arterial action rather lower than the healthy standard, and in keeping the bowels duly open with saline purgatives. Diffusible stimulating diaphoretics should be freely used through the diurnal remission, such as vin. antimon. and spts. nit. dulc. or camphor and ammonia in small doses, along with copious drinks of acidulated hot whey or panada. In obstinate cases, one or two grains of opium and ten of pulv. Doveri, may be administered with great advantage two or three hours before the recurrence of the nocturnal exacerbation. During the exacerbation, administer antimonial diaphoretics every two or three hours, and cool diluent drinks.

Local treatment.—Tinct. opii, largely diluted with lead water, syringed or dropped into the eye every two or three hours during the remission. During the exacerbation, bathe

with moderately cool, pure water, every hour or two, or oftener if pleasant to the eye, either by gently syringing, or by dipping the face into a bowl with the eyes open; repeating the process each time, until the eyes are perfectly cleansed and cooled.

Should this disease progress to the atonic stage, it will require similar treatment with the corresponding stage of purulent opthalmia; which see.

Muco-purulent, purulent, and gonorrhœal conjunctivitis.—These diseases are all modifications of that of which I have just treated. Like it, they owe their origin to irritation of the mucous tissue of the conjunctiva; but from it (according to the best authorities) they differ in this, that irritation in those is generally, if not always, caused by infection or contagion, the latter, the gonorrhœal, particularly, resulting only from actual contact of a specific virus, which is capable of infecting only mucous membranes. But there are not wanting eminent authorities, well armed, too, with corroborative facts, who teach that *catarrhal* opthalmia, in vehement and protracted cases, attended with unwonted vascular congestion, followed by muco-purulent, or purulent secretion, becomes contagious, and is so propagated; and even, indeed, that such is often the origin of the Egyptian (purulent) Opthalmia.*

Dr. Veitch remarks, "From whatever cause inflammation of the conjunctiva may originate, when the action is of that nature or degree of violence as to produce a puriform or purulent discharge, the discharge so produced operates as an animal virus when applied to the conjunctiva of a healthy eye."

Most authorities concur with the above, as to general distinction of origin into atmospheric and contagious. But some

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* See McKenzie, p. 288. Lawrence, p. 162.

contend for the identity of Egyptian opthalmia, and gonorrhœal, and assert that gonorrhœa may be, nay has been produced by application of this discharge from the eye to the urethra.

Purulent conjunctivitis is so variable in intensity, that it is difficult to distinguish the milder cases of it from catarrhal, and the more vehement from gonorrhœal opthalmia. The principal diagnostics from the catarrhal are the great swelling of the palpebræ, and the granular appearance of the thin lining membrane, extreme vascular congestion, deep red color, and chemosis of the conjunctiva, the profuse purulent discharge, and the long continuance of the disease. The stages and periodicity are also less distinctly marked in this, than in the catarrhal.

Symptoms of the irritable stage.—A sense of stiffness of the eyelids, and of contraction or tightness of the globe, accompanied with deficiency of mucous secretion, and a sensation as of sand in the eye, with frequent profuse lachrymation characterize this stage, which, when intense, continues only a few hours, in other cases for several weeks. In the latter, the ensuing inflammation commencing at the ciliary margins, slowly progresses on to, and over the globe, followed by muco-purulent, or purulent secretion, and preceded by the extending irritation, which becomes more and more intense, as it advances, from superadded irritation of distention, until the state of the second stage is fully developed.

Symptoms of the active inflammatory stage.—Inflammation extended over the ball to the cornea, increased pain, sometimes of excruciating severity, with a sensation as if deep seated in the eye, with violent headache, and throbbing at the temples, and above the eyes, profuse purulent secretion, flowing over the face, and besmearing the bosom; a sensation as

if the eye-ball was too large for its orbit, and as if it would burst, (caused probably by increased secretion of the aqueous humor, from the increased sanguineous determination,) which is sometimes temporarily relieved byactual rupture of the cornea, and discharge of the humor. The disease is now marked by the highest grade of vascular action, with redness and tumefaction of the conjunctiva. The turgid vessels gradually relaxing, fibrine as well as pus begins to be secreted, the membrane becomes thickened and covered with granulations, the eye-lids become red and swollen, the relaxation increases until the palpebræ become extremely tumid, grow paler and become enverted and œdematous. The pain presently diminishes, and secretion of pus and appearance of granulations increase until the third or atonic stage is presented. Throughout this and the preceding stages, well marked remissions and exacerbations occur, that are often periodical, but less regularly so than in catarrhal opthalmia. Constitutional affection is slight, appetite and digestion but little impaired, pulse and tongue generally natural.

Symptoms of the passive inflammatory stage.—This stage is characterized by dark red, sluggish, distended vessels in the conjunctiva, great relaxation and chemosis of the membrane, with dark red, sometimes a livid granulated surface, resembling the surface of a ripe mulberry; with nebulæ, ulceration or mortification of the cornea, prolapsus iridis, and staphyloma, sometimes with iritis, cataract, retinitis, leucoma, amaurosis, and atrophy of the eyeball. Or again, in milder cases properly treated, vascular congestion diminishes, pain subsides, swelling recedes, granulations are absorbed, cornea heals or clears up, and the disease resolves.

This is in some cases a most obstinate disease, though generally tractable, and under good management but little dan-

gerous. But without treatment, or under mal-treatment, it becomes terribly destructive; as illustrated by its effects on the crew of the slave ship Rodeur, recorded by Mr. McKenzie, which, to exhibit the importance of attention to treatment, I subjoin: "The slaves first became affected. In a short time the disease extended to the crew twenty-two in number, of whom, twelve men lost their sight; one of these was the surgeon; five lost each one eye; one of these was the captain; four had considerable specks and adhesions of the iris to the cornea."* The origin of this disease could not be traced to contagion.

Treatment of the irritable stage.—The object of treatment in this stage, is to counteract, and to supersede a specific local irritation of a mucous surface; and to prevent the occurrence of inflammation, or to mitigate its severity. 1st. By reducing vascular action. 2d. By removing all obstacles to a free and easy circulation of the blood. 3d. By dividing, to lessen intensity of irritation by irritating a greater extent of the mucous surface. 4th. By counter-irritating, or producing another, and if practicable a stronger action in the diseased locality.

The best authorities, with but very few exceptions, concur in recommending very copious general bloodletting in the *commencement* of this disease; to an extent unparalleled in reference to any other disease; generally extending it *ad deliquium animi*, and to repeat the operation, until *vascular congestion* is removed or directly diminished, and all pain is relieved. The reason alleged for this unparalleled depletion, in treating a disease described as but little affecting general arterial action, is to "arrest the violent inflammation of the

* McKenzie, p. 291.

conjunctiva, to prevent its extension from that membrane to the cornea."

Notwithstanding the imposing character of authorities, imposing on account of their erudition, high order of talent, and above all, on account of their experience derived from the treatment of thousands of cases, neither their facts, their reasoning, nor their objects, appear to me sufficient grounds upon which to establish a course of treatment so illy adapted to the indications in the disease.

To follow in the wake of high authorities, in the treatment of an inflammatory disease purely local; but little if at all disturbing general arterial action, to the shedding of blood to the amount of from thirty to sixty ounces, or to syncope, and repeat *ad libitum*, (none of them speak of less;) I could no more think of, for their reasons alleged, than of following equally high, and more ancient surgical authorities, in inserting tents, syndons and canulas, into all sorts of wounds, as a necessary part of their dressing. That an increased quantity of blood is always, in natural action, determined to an irritated point, and in proportion to the intensity of irritation, is a surgical axiom, is a fixed law of nature; and no general depletion, short of an excess, atonic and ruinous, can arrest it.* For whilst there is a sufficiency of blood left in the body to maintain its nervous powers, this supernatural determination to the irritated point, will be maintained.

Purgatives and sudorifics are of more decided efficacy: by determining to the intestines, mesentery, and skin, and by removing impediments to free portal and capillary circulation, they deplete the eye, without debilitating the system; and

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* A failure of this effect, when irritation is vehement eventuates in spasms, tetanus and death.

their effect upon the mucous coat of the intestines, contributes temporarily to the third indication of diffusion.

The close analogy that exists between the virus that engenders this disease, and the gonorrhœal; and the well attested efficacy of balsamics and other diffusible stimulants, applied to the mucous surface of the alimentary canal, as counter-irritants in early stages of gonorrhœa, would seem forcibly to admonish us of the importance of recourse to similar treatment in the early stage of this, as well as of gonorrhœal opthalmia. Under the influence of such views, I have in early periods, administered such remedies with decided advantage; of which class, the following mixture is a favorite prescription:

℞. Bals. copaiv. ℥ij.
Spt. nit. ether. ℥j.
Spt. tereb. ℥j.
Tinct. op. ℥j.
Gum. acac. ℥ij.
Aq. ferv. ℥iij. M. ft. solut.

A tea-spoon full to be taken every four or five hours.

Local treatment.—Undiluted tinct. opium poured into the eye two or three times a day—to be applied during remissions only, as irritation subsides, dilute the laudanum with lead water. Bathe with moderately cold water, either by syringing, or by dipping the face into it with the eyes kept open frequently through the day; especially during exacerbations. Where inflammation supervenes about the tarsi, to arrest its further progress, and to prevent agglutination of the margins, keep the palpebræ anointed with some alterative sorbefacient. The following is recommended as such:

℞. Sub-mur. hyd. ℥ii.
Acet. plumbi ℥iii.
Axung sui ℥ss. M. ft. Unguentum.

General treatment of the active inflammatory stage.—In this stage, increased vigilance is required to keep arterial action below the healthy standard, and to keep the bowels freely open with cooling purgatives. From antimonial sudorifics much benefit is to be expected; not only as aiding to keep down vascular action, and equalize circulation, but to effect counter-irritation throughout a continuous and an associative tissue. All balsamics and stimulants should be discontinued, or administered only during remissions, which, owing to the prolongation of the exacerbations, are often scarcely appreciable in this stage.

Local treatment.—Repeated bathings of the eyes and face in moderately cold water, by syringing and by dipping the face into it, with the eyes kept open. Cold water as often as is pleasant to the patient, should be poured over the head and back of the neck. As often as the palpebræ become tumid and swollen, they should be reduced by application of leeches, or by puncturing the most turgid vessels over their surface. Much benefit is sometimes derived from division of prominent vessels on the surface of the globe. If indications of iritis, such as change in its color, or unusual intolerance of light; or of acute cornitis occur, in the progress of this stage, cut off the communication with those by the section of the conjunctiva.

The collyrium to which I am most partial in this stage, is a solution of acet. plumb. in vin. op., from two to six grains to the ounce, to be injected under the lids, or poured into the eye four or five times a day—the eyes having been first cleansed of matter with water.

During the height of the exacerbation, when acute pain, or the sensation of sand in the eye is experienced, much relief and real benefit are derived from the frequent application of

the mucilage of the quince seeds, of sassafras pith, or of flax seed. It is but seldom admissible to use any active or stimulating wash where the eyes are thus sensitive and painful; but plasters of opium, of stramonium, or of belladonna, may be beneficially applied around them. The application of the ointment to the palpebræ, prescribed for the first stage, may be beneficially continued during this.

Treatment of the passive inflammatory stage.—This is literally the period of disorganization. A greatly increased quantity of blood having been for sometime determined to the delicate vessels of the conjunctiva, and impelled into them with unusual force, their calibres have become dilated, their tunics attenuated, and their contractility lessened, until they remain the mere receptacles of blood, impelled into them by the *vis a tergo;* which still propels a supernatural flow to the part, now laboring under the irritation of disorganization. The capillaries that extend to the cornea, and those that inosculate between the conjunctiva and the ciliary body, presently dilate, and convey red blood instead of colorless lymph. The stimulus of this foreign matter, together with the stimulus of distention, is productive of internal irritation; which elicits an increased flow of blood to the part through the vessels of the choroides and the retina, and becomes productive of inflammatory action in the ciliary body, which rapidly extends to the contiguous membranes, and is frequently followed by amaurosis; either in consequence of disorganization of the retina; or from pressure upon the nerve made by dilatation of the arteria centralis retinæ and the opthalmic branches.

The object of treatment then in this stage, is materially different from that in the first and second. Here it must

mainly be directed to restore vascular power in the part, and to change, or to arrest the morbid determination.

General treatment.—Tonics, stimulants, and alterants, are the classes of remedies most requisite in treating this stage. In the selection of tonics, especial care should be taken to avoid all such as are known to determine to the head; on this account, quinine and those tonics that contain it should be rejected. The salts of iron, and of bismuth, appear to me to be as unexceptionable as any others. Opium, stramonium, belladonna, hyosciamus, lactucarium, &c., are often of considerable benefit; they lessen irritability, equalize circulation, and allay that exhausting restlessness which is commonly attendant. When distention of inosculating vessels has extended irritation to the ciliary body, and has produced congestion and inflammatory action in the vessels of the choroides and retina, evinced by discoloration of the iris, or misty vision from lenticular obscurity, the use of mercury prosecuted to ptyalism, is the principal, and our most rational dependance. For such in this stage is the atony of the system, that general depletion is not admissible, and if local bleeding were our means of thus depleting, the turgid internal vessels are too limited to be made available. Our only resource then, is to change or divert the morbid determination. Mercury, by the irritation it produces in glandular structures, when brought into active operation, produces an increased sanguineous flow to all such parts, to a degree that depletes a non-secreting portion of body more effectively, than would the abstraction of pounds of blood.

Local treatment.—Astringent washes are manifestly best adapted to this stage; alum water, of the strength of from four to ten grains to the ounce, is among the best. The free

use of pure spring water will here be beneficial on account of its tonic, as well as of its cleansing and refrigerant effects. No preparation of lead is now admissible either in the form of wash or of ointment. Its sedative, I might say, its paralysing local effect, would increase the inertia, the passive state of the part. The strength of washes should be weakened as diseased action subsides; a solution of alum, or of lead, of full strength, say four to five grains to the ounce, will be borne with but little pain, and with perceptible relief and benefit, if applied to an inflamed eye; but would produce considerable irritation, inflammation and pain, if applied to the healthy conjunctiva.

For this disease of the eyes, but without reference to stage and but little to condition, strong solutions of nit. argent. sulph. cup. per chlor. hydrarg., and of sulphuric, nitric, and acetic acids, have been recommended by high authority. I have used most of them, but never with benefit. Local bloodletting is often highly beneficial. By removing the congestion, action is excited in the sluggish vessels, which is of even more consequence than the depletion. The turgid vessels on the surface of swollen palpebræ, should be often emptied, by puncturing them, or by the application of leeches. Still greater benefit is derived from scarification of the conjunctiva, or division of its vessels on the surface of the eyeball.

In cases of considerable chemosis, Mr. Lawrence recommends radiated incisions to be made through the tumid duplicature of the membrane that projects over the cornea, all around its circumference, to discharge the effusion or ecchymosis from beneath.

The practice of Scarpa, in such cases, of removing with scissors a circular portion of the membrane all around the

cornea, is necessarily an inferior operation to the above, as it can effect only the removal of ecchymosis. For from the condition of the part, and the mode of operating, a portion of the mucous coat only is removed; destroying just so much lubricating surface, and leaving the fibrous, the most vascular, the inner coat entire.

Mr. McKenzie's method I think preferable to either. "The mode which I adopt" says he "is to raise a small fold of the conjunctiva with the forceps, and snip it away with the scissors. This fold rarely contains the enlarged vessel which we wish to cut across, but it is now exposed, with a small hook it is easily raised from the surface of the sclerotica and divided."

It is singular, the process in such operations should never have suggested to Mr. McKenzie, the double structure of the conjunctiva.

But in cases in which the transparency or organization of the cornea, or the healthy condition of the internal tunics and humors is endangered, by the violence or the extension to them of the external inflammation, I prefer, to either of those, the simple division of the conjunctiva clear around the cornea, cutting through both of its coats, with all their vessels and nerves. This operation is perfectly conservative in its effects.

Besides emptying the vessels of the conjunctiva, and producing powerful and most benficial alterative action in this membrane, it arrests the further progress and extent of the disease. It is restricted in its action, thenceforth, to the space between the line of section and the tarsi palpebræ, for a period of time, amply sufficient for the accomplishment of a cure of the conjunctivitis.

The operation.—To make the section of the conjunctiva,

the operator should be furnished with scissors, having a slender probe point, extending a little longer than the extremity of the antagonizing blade; and a common tenaculum. The upper eyelid being raised by an assistant, he should take a secure hold of the conjunctiva with the tenaculum towards either canthus of the eye, near to the edge of the cornea; raise and perforate the coat sufficiently to admit the probe point of the scissors, and at once, and without ever withdrawing the inserted point, divide the membrane entirely around the lower hemisphere, within from one eighth to one fourth of an inch of the margin of the cornea—steadying and turning the eye the while, suitably to the progress of the operation, with the tenaculum held in his other hand. So much having been performed, if the patient can bear more without resting, commence again at the same point, without removing the tenaculum, and proceed to make the section of the upper hemisphere, to intersect that of the lower.

When this operation is completed, the divided edges retract from one eighth to one fourth of an inch, and exhibit the tendinous expansions, the albuginia, through the interstice. But in the course of a few weeks, the adhesive process repairs the breach, and it becomes difficult to detect the cicatrix; nor does there remain any appreciable functional injury.

Care should be taken in making this operation, that the entire conjunctiva is divided through both its coats. In cases of chemosis, which consists in occurrence of effusion between its mucous and fibrous coats, raising and separating the former from the latter, a careless operator would cut none but the former, leaving the fibrous, the most vascular and nervous of the two, entire. By this nothing would be effected but relief from ecchymosis, which would have been better and more easily done by Mr. Lawrence's mode of scarifying.

The treatment after the operation should be just such as though the disease had not so far advanced as to involve or endanger the cornea or the internal structures. The superiority of the operation, in fact, consists only in releasing *those* from any farther liabilities from the conjunctivitis. Should any internal disorganization, or inflammatory action that existed at or before the operation, manifest symptoms of continuance thereafter, it would be safest to subject it to appropriate treatment by mercury, &c. as above advised.

After having practised the above operation nearly twenty years, I met with the following notice of an operation practised in Persia, in the 74th number of the Medico-Chirurgical Review, for the year 1838. It is thus described:

"The object of this operation seems to be, to completely cut off the vascular communication, by excision of a circular portion of the conjunctiva at a small distance from the margin of the cornea, which is accomplished by fixing eight small hooks into the conjunctiva, about a line from the union of the cornea with the sclerotica, quite round the cornea; the operator then raises that part of the conjunctiva by pulling these hooks towards him, and, with a pair of scissors, he cuts off the portion thus raised, and completely insulates the conjunctiva covering the cornea, the consequence of which is the gradual absorption of the opacity of the part affected, and the cornea recovers its transparency. The after-treatment is very simple, consisting merely in the introduction of a small quantity of antimony between the lids; in fact, the result of the operation is confidently expected to be successful without any other application."

I am at a loss to determine whether this is more similar to Scarpa's or to my operation. The effect *ascribed* surpasses either; for it would seem to be radical: I consider mine only

conservative. But the mode of operating would indicate that it is the same with Scarpa's; for it is but seldom that a hook raises both coats together, (in chemosis scarcely ever;) and when raised, if the raised part is snipped off, with the flat side of the scissors laid to the eye, as seems to be the mode here, from this description, the fibrous coat with its vessels would generally be left entire beneath, as represented above by Mr. McKenzie, in his mode of scarifying. But the Persian mode is objectionable, (even if it did comprehend both coats,) on account of the unnecessary removal of a portion of the membrane, whereby permanent injury is inflicted; for so broad a cicatrix never can become so perfectly organized as the marginal adhesion of a simple section.

In my operation, the difficulty of passing on the point of the scissors *between* the coats, except in cases of chemosis, and the thinness of the membrane raised, will soon admonish an informed operator of his error, and the facility gained by getting under the fibrous coat, gives assurance that he is right.

I first performed this operation during my residence in Danville, Lincoln county, Ky., in 1819, on Col. D., aet. sixty-eight years, a continental officer of the revolutionary army. I found him afflicted with purulent opthalmia of the right eye, attended with excruciating pain and total blindness. The whole conjunctiva was of a florid red, presenting an extreme degree of vascular congestion; the entire cornea being nebulous and opaque. He complained of deep-seated pain in the ball of the eye, extending over the forehead and to the temples. His left eye was staphylomatous and atrophied, which was represented to have occurred twelve months before from a similar attack. The origin of the disease I could get no satisfactory account of, but ascribed it mainly to intemper-

ance. His appetite was good, tongue slightly furred, pulse hard and frequent. I bled him freely from the arm, cupped the temples and forehead, scarified the conjunctiva, prescribed mercurial purgatives, and sulph. zinc and acet. plumb. solution as a collyrium. Visited him next day; found the congestion increased. Bleeding repeated; small purgatives of calomel ordered nightly.

From this time I repeated my visits every three or four days, a distance of twelve miles; tried several of the most approved collyria of the day, and as taught by the best authorities, applied them without any reference to stage or periodicity. Bloodletting, general and local, and purgatives, were repeated, and abstemious diet rigidly enjoined; until diarrhœa and delirium tremens supervened. Those unpleasant occurrences I had got nearly relieved, when, on the 2d November, having discovered no amendment of the eye, but, on the contrary, increased and increasing thickening and congestion of the membrane, but little relief from pain, and progressive increase of constitutional debility; and having particularly remarked that the enlarged red vessels seen in the nebulous cornea were continuous from the conjunctiva, and that the most prominent of them, when divided in scarifications of the conjunctiva, contracted and gradually disappeared, and that others near those, that were before invisible developed, and were by the next visit frequently found as large and as red as the first had been; I determined to end this alternation and substitution, by dividing them all at once, cutting through the conjunctiva, clear around the cornea. This operation I performed, in this case, with common dissecting forceps and crooked pocket-book scissors. I thereafter prescribed lead-water collyria through the day, and a bread poultice, mixed up with the same, during the night. I remained with him

four or five hours after the operation; within that time pain was nearly removed, and inflammation and congestion were very much lessened. On my next visit, the nebulæ of the cornea appeared relaxed and corrugated. On the 10th it hung loose by filaments, and I removed it with forceps, leaving the cornea quite clear. I now considered the eye cured and took leave of the case, although slight congestion of the conjunctiva, and nervous tremors and diarrhœa, still remained somewhat troublesome, leaving a prescription of opium and acet. plumb. for the latter, and a mild collyrium for the former.

On the 16th I was called to see him again, and found him a raving maniac. I advised a more nutricious diet, and the following prescription, with no favorable prognosis:

℞ Sem. stramon. grs. iv.
Cal. grs. ii.
Op. gr. i.

To be given three times a day, the quantity of stramonium to be increased in each successive dose until it dilated the pupil of the eye to its greatest dimensions, and to keep it so dilated until the raving ceased; then gradually to be lessened until sanity was restored. I visited him no more as a patient; but under this course of treatment he recovered in about three weeks, and had remained healthy and in the enjoyment of as good vision as is ordinarily enjoyed at his time of life, up to the time of my removal to Virginia, in May 1820, and I heard of his continued health several years afterwards.

The cases of purulent conjunctivitis with which I have met have generally so readily yielded to treatment, that I have found it necessary to perform this operation in but a single other case. This occurred in the Louisville Marine Hospital, in December last, the subject a native of Ireland, of intem-

temperate habits, and was attended with considerable success. The case was treated jointly by Professor Flint and myself, and as he delivered clinical lectures in the Hospital, and prescribed in accordance with the best authorities of the day, I forbore, as a general rule, to interfere with his treatment. The section of the conjunctiva commenced on the 22d and 24th of December, was not completed on account of the obstacles of a remarkably small palpebral fissure, and the want of a hearty disposition to the operation on the part of the patient. The further prosecution of the operation was delayed until late in February, in consequence of indisposition which kept me away from the Hospital. On the 27th of that month the section was completed, and on the next day the inflammation was materially lessened. The case continued to improve, and by the 10th of March, with good general health, only a slight opacity of the cornea remained.

Gonorrhœal Conjunctivitis.—This disease is believed in some cases to arise from metastasis from the urethra; but in all cases that I have met with, it seemed to have originated from actual application of gonorrhœal matter to the eye. In its symptoms, it varies not from purlulent opthalmia, except in intensity, and in the rapidity and destructiveness of its progress.

The diagnosis between the milder cases of gonorrhœal and the more violent ones of purulent conjuctivitis, is difficult—is perhaps to be inferred only from the origin, or history of the case. This gonorrhœa like gonorrhœa urethræ, presents various grades of intensity; but in most of its grades, under ordinary treatment, it generally results in loss of vision. The danger to vision is owing only in part, to its specific virus; for it is productive of iritis, retinitis, cataract, and amaurosis, diseases in structures that are not subject to

gonorrhœal irritation, they not being mucous tissues; and it is believed that mucous tissues alone, are liable to gonorrhœal irritation, as appears in gonorrhea urethræ. In this, we see the glans penis, the prepuce, and the skin of the thigh, constantly soaked with the discharge in its greatest degree of virulence, without ever becoming involved in the disease. The first application of the contagious matter, indeed, is to the glans, prepuce, and skin of the penis; yet the urethra alone imbibes and takes on the disease. Those internal diseases of the eye then, I conceive should be ascribed not to irritation from gonorrhœal virus, but as an effect of irritation, through sympathy, or I would prefer to say, from irritation by dilitation of inosculating capillaries, by *vis a tergo.* The cornea, is invested with a mucous coat, and is liable to both—irritation from the specific virus, and the irritation from distention; thence it is found sooner and oftener suffering, than any of the other parts important to vision. Of fourteen cases, related by Mr. Lawrence, loss of vision took place in nine "from sloughing, suppuration or opacity of the cornea." "Sight was restored in the other five, with partial opacity of the cornea, and anterior adhesion of the iris in three of the number." "So short a period" says he, "intervenes between the commencement, and the full development of the complaint, that in many instances irreparable mischief is done to the eye, before our assistance is required."

Dr. Physick in his lectures of 1817–'18, said, "that he never had known a cure effected in a case of unquestionable gonorrhœal opthalmia; and that he considered blindness an inevitable consequence." The recollection of this prognosis determined me after my operation on Col. D., that should I ever encounter such a disease, I would embrace the earliest opportunity to make trial of the same expedient in its treatment.

TREATMENT.

No difference in treatment is required from that recommended in purulent opthalmia. All authorities concur in treating them similarly, or only varying in energy, in proportion to variation of intensity. Some of the most respectable authorities, indeed, consider it probable, that gonorrhœa, had its *origin* through inoculation from Egyptian (purulent) opthalmia.

I have never been consulted in a case of gonorrhœal opthalmia in its early or irritable stage: but from the advantages derived, from the mode above recommended in the treatment of purulent opthalmia in its irritable stage, which it may be seen, is pretty much the same with the ordinary practice in the early stages of gonorrhœa urethræ, with which this is identical, I am disposed to believe, that under similar treatment, gonorrhœal opthalmia, might be, as often cut short, as is gonorrhœa urethræ.

Case 1*st.*—A few years after my removal to Fincastle, Virginia, I was called to attend Mr. L., aged twenty-five years, who had a violent purulent opthalmia, which he ascribed to cold. I had his case under vigorous ordinary treatment about two weeks without appreciable amendment; when he revealed a fact, that he had so far not considered worth naming, viz: that prior to my attendance, he had gonorrhœa and that he had several times during the disease, washed his eyes with his urine. This changed the aspect of the case, and I at once apprised him on Dr. Physick's authority of the tendency of his disease, and advised a resort to the circular section of the conjunctiva, as an experiment. He declined it. A few days afterwards he went to Salem, and

placed himself under the care of Drs. Gunn and Foot, where he remained until he was perfectly blind; in which condition he returned and requested me to make trial of the operation I had proposed.

At this time, March 10, 1826, the conjunctiva exhibited the highest degree of congestion in both eyes. The nebulous state of the right eye completely destroyed the transparency of the cornea, over which the vessels interlocked, extending across from opposite sides. The cornea of the left was somewhat opaque, but retained sufficient transparency to exhibit contact of the iris with the cornea, and the opaque lens in contact with, and filling the pupil, the cornea was prominent in the centre, presenting incipient staphyloma. I performed the *sectio conjunctivæ* on the right eye, and treated both with injections of solution of alum, of the strength of grains vi. to the ounce of water. Visited again on the 13th, pain was so much relieved in this eye, that he requested the same operation on the left, *for relief from pain alone*, without hope, promise, or prospect, of restoration of vision.

The same collyrium was continued; bowels kept open with saline purgatives, diet unirritating but nutritious. After this he complained of but little pain. In twelve days when I quit my regular visits, inflammation had nearly subsided; the left eye gradually atrophied and flattened; but was no more painful or troublesome.

The pseudo-membrane of the right eye was not detached, as I had expected, and as had occurred in Col. D's. case; but was gradually removed by process of absorption; and about three months elapsed, before the internal condition of the eye was revealed; when it exhibited immobility of the iris, contraction of the pupil, and cataract.

As soon as I conceived the transparency of the cornea to

be sufficiently restored to afford a fair prospect of relief from the operation, I depressed the lens. The operation was speedily recovered from, and without the occurrence of an untoward symptom. The pupil was restored to entire clearness, but without any kind of benefit to vision.

This case although unsuccessfully treated, seemed to me to be of sufficient pathological importance to entitle it to be reported. Here, from a disease arising from a virus that contaminates only by contact, local in its character, and restricted in its locality to mucous tissues, all the important internal structures of the eye have been disorganized. It has produced iritis, synechia anterior, closure of the pupil, cataract, amaurosis, staphyloma, and atrophy. It has deranged and disorganized structures that are not supposed to be susceptible to irritation from gonorrhœal inoculation; and if not, that could only have been acted upon through sympathy, from nervous connection; or by irritation from *vascular* dilatation of insoculating vessels between them and the conjunctiva.

Case 2d.—During Mr. L.'s confinement, a healthy, respectable and pious young woman in the neighborhood took great interest in his case. She conceived his opthalmia to have arisen from irritation of wild hairs, and volunteered to pluck them out; and whilst engaged in plucking such of the ciliæ as she conceived to be wild, she, with her fingers, often brushed the sympathetic tear from her own eyes. I was, ere long, called to visit her; found her laboring under severe purulent opthalmia, accompanied with decided iritis; evinced by great intolerance of light in both eyes, and, in one of them, by change of color in the iris. On being informed of the above facts in the history of this case, I could entertain but little doubt of its nature; nor did I hesitate in adopting a vigorous

course of antiphlogistic treatment, a minute detail of which is unnecessary—suffice to say, it consisted in bloodlettings, general and local, purging, mercurializing to ptyalism, and in collyria of solutions of acet. plumb., sulph. cup., alum, &c. The treatment had the effect to lessen pain and intolerance of light, to remove discoloration of the iris, and to keep the conjunctivitis pretty much at a stand for nearly two months; during the latter part of which time the conjunctiva cornea gradually thickened, until vision was destroyed in the left eye, and so much obscured in the right as to be of but little utility.

In this state of the disease I performed the section of the conjunctiva on the right, on the 4th of June, 1826; and on the left, on the 7th. After-treatment consisted in the use of occasional mild laxatives of sulph. magnes. and nit. potas., of lead-water collyria through the day, and a poultice containing lead and opium at night.

The film of the left eye was detached from the cornea by interstitial secretion, and thrown off as a pseudo-membrane; and this worst eye was first cured. Transparency was restored to the right by the slower process of absorption. A psoropthalmia, that was troublesome after other symptoms had disappeared, was treated and removed by an ointment of nitrate of mercury and acetate of lead, applied nightly to the margins of the eyelids.

Case 3d.—A negro, at James' river Forge, fourteen miles from Fincastle, in May, 1831, got a speck of cinder struck into his eye, and suffered it to remain until it excited inflammation. To relieve this, he prepared a collyrium of zinc and lead, and injected it frequently with a syringe that another workman was using upon himself for a gonorrhœa. Six days after this treatment I was requested to visit him, and found

him affected with violent *active* conjunctivitis, complaining of deep-seated pain in the eye, and a sensation as if the ball would burst. Indications of iritis and cornitis were also perceptible; the latter had assumed a greyish cast, and red vessels were seen traversing it from different directions. The iris had assumed a dingy reddish color, in spots about its margin, and a remarkably painful intolerance of light was complained of.

I took from the arm about forty ounces of blood, performed the section of the conjunctiva, prescribed leeches to the palpebræ, daily purgatives of sulph. soda and nit. potas., with the continuation of the collyrium that he had been using, changing the syringe; I visited him no more. About four weeks afterwards he called on me in town with his eye restored.

Case 4th.—In September, 1832, a one-eyed laborer at a Furnace twenty-four miles from Fincastle, who had gonorrhœa, became affected with soreness or weakness of the eye. To cure it he washed it with his urine, and eight days after this treatment I visited him. Symptoms as in the above case, iritis excepted. Treatment the same. I never saw him afterwards, but was told that he got well in a fortnight.

Case 5th.—A young gentleman who had gonorrhœa, in Fincastle, in 1834, was troubled with a weak eye, which he washed with his urine.* About four weeks afterwards his attending physician requested me to see him for the purpose of operating on the eye, in which he was quite blind. Chemosis was considerable, the cornea transparent but inflamed, and had ruptured near the lower edge; the iris pressed forward and seemed in contact with the cornea; through it was to be seen what we supposed to be the lens, in a state of cataract, but which the sequel induced me to believe was more

* A popular treatment for weak eyes in that region.

probably an adventitious membrane in the pupil. This case had been treated as well as usual in the ordinary way. My prognosis was unfavorable; I gave no promise of restoration of vision, nor any other prospect of benefit from an operation, but to prevent further progress of disorganization and to allay pain. I made the section, prescribed saline laxatives, collyria of lead water, and an unguent of calomel and lead to the palpebræ. In a few days inflammation subsided, and the cornea healed, leaving considerable leucoma. He removed, seven or eight weeks afterwards, out of the neighborhood, at which time he conceived his vision to have improved. I advised him to continue the use of the ointment perseveringly. I was informed several months afterwards, by his friends, that the cataract had disappeared, and that vision was restored.

I have performed the section in other diseases of the conjunctiva, of anomalous or complex character, and have effected restoration from internal degenerations, by medicinal application to that membrane and to the palpebræ, predicated upon the pathological connections heretofore demonstrated—cases that I conceive to be of considerable pathological and surgical interest; but which could be more appropriately connected with a separate dissertation on some of those diseases, than with this, which is, without them, already much longer than I had anticipated or intended.

April, 1840.

ART. III.—*An inquiry into Dysenteric Bilious Fever.* By W. K. BOWLING, M. D., of Adairville, Ky.

THE topography of the southern portion of the Green river country renders it peculiarly obnoxious to every variety of miasmatic disease, but especially to dysentery.

That portion of it in which the author resides, presents an extensive plain of many miles, scarcely relieved by the slightest eminence, covered, where not cultivated, with a dense and almost impenetrable growth of dwarf hickory, hazle and sumach, and a young forest of black oak, wild-cherry and sassafras, the product of the last twety years; the country having been originally "*barren.*" It is irrigated and fertilized by the north and middle forks of Red river, which after wending tardily along some twenty miles, almost parallel, and seldom more than five miles apart, unite to pour their common waters into the Cumberland thirty miles below.

For severeal miles north and south of these rivers the soil is strong and productive, but between them it is exceedingly rich, yielding the most luxuriant crops of grain, hemp and tobacco. The fine water power afforded by this river and its tributaries, could not fail to attract capitalists, who have erected large flour manufactoring mills, and cotton factories, within practicable distances, almost from its source to its confluence. The water being thus confined by numerous dams, and large quantities of drift wood and leaves from the small tributaries being deposited at every freshet, in the comparatively still water of the ponds, it follows that an abundant material for the generation of miasm is always on hand. Accordingly about the middle of July in every year, some of the varieties of bilious fever make their appearance, the multi-

plication of cases being almost in direct ratio with the heat of the weather, and lowness of water in the dams.

Simultaneously with the appearance of bilious fever, cases of dysentery are developed, in the same district, the latter multiplying as the former spreads, and becoming of less frequent occurrence as that diminishes. Not that the dysentery uniformly accompanies, and is associated with bilious fever, for the latter not unfrequently prevails through the summer and autumn, in the total absence of the former. But whenever dysentery *does* appear—and it prevails in this district two seasons out of three—it is always the *accompaniment* of bilious fever.

That the predisponent cause of dysentery is to be sought for in the exhalations from animal and vegetable decomposition, admits of as little doubt, as that bilious remittent and intermittent fever owe their origin to that cause. It is in climates most obnoxious to bilious fever, and at seasons, and in localities favorable to the rapid generation of malaria, that dysentery is rife. Indeed, for a number of years I have regarded dysenteric phenomena as nothing more than adventitious manifestations superadded to the suite of symptoms usually characteristic of bilious fever. How the nervous impressibility in the one case should be so operated upon by the morbific cause as to result in bilious fever, and in the other superinduce dysentery, is, to me, inexplicable. But that there is a most striking analogy in the consecutive concatenation of morbid phenomena that characterize bilious fever and dysentery, I think no one conversant with these diseases will seriously dispute. There is the same functional aberration in both, and but for the muco-sanguineous dejections, and tenesmus, that so characteristically distinguish dysentery, it were *identical* with bilious fever.

Professor Calhoun, in his edition of Gregory's Practice, remarks, that "dysentery is generally a form of the bilious remittent fever of summer and autumn, and is produced generally by animal and vegetable decomposition; the effects of which are brought into action by the cold air of evening, sudden vicissitudes of temperature, or any cause which cools the surface and gives the disease a centripetal direction." The fact too that the symptoms of dysentery may obtain in all their virulency, viz: bloody and mucous stools, tormina and tenesmus, from other causes than those capacitated to develope idiopathic dysentery, shows, I think, pretty conclusively, that the disease as ordinarily exhibited, should be regarded as a mere adventitious symptom of bilious fever. It does seem to me if this view of dysentery were generally taken, that its treatment would be very much simplified, and its fearful mortality eminently abridged.

Although a most interesting enquiry, it must be conceded, that the time and labor spent in the sedulous investigation of the remote cause of disease, are, for the most part, unprofitable, for even were our researches rewarded by a revelation of the first link in the chain of morbid action, it would not at all induce to its removal. For admitting that malaria is the remote cause of dysentery, we know of no agent that would eliminate it from the economy, or render it innoxious; indeed we do not know what malaria is—so much was the judicious Sydenham impressed with the futility of this enquiry, that he remarks, "that the discovery and assigning of remote causes, which engross the thoughts and feed the vanity of curious enquirers, *is an impossible attempt;* and that only the immediate and conjunct causes fall within the compass of our knowledge, and that from *from them alone* the curative indications are to be taken."

My object is not so much to establish the remote cause of dysentery, considered as a distinct disease, as to prove its identity with that morbific agent, whatever it may be, that so modifies or changes the molecules of the nervous tissue as to set up a predisposition to bilious fever.

Of however little use, in general, the understanding aright of the remote cause may be, in suggesting the correct curative indications, still, in the disease under consideration, I regard it of importance, because otherwise we would not be enabled to so well understand the near relationship it bears to bilious fever. If we were to confine our inquiries to the pathological phenomena developed in autopsic inspection, without taking into contemplative consideration the consecutive morbid changes from the *aggression* to the *finale* of the disease, we should deduce an inference intolerant of the identity of dysentery and bilious fever, and the therapeutic medications suggested by these *data*, would be essentially different in the two diseases; and although they would prove successful in the latter, the physician, in a great majority of instances, would be chagrined and mortified by their total failure in the former, as all can testify who have been compelled to grapple year after year with this terrible malady.

I am aware that modern practice assumes to make the curative indications in disease harmonize with its pathological condition, as previously ascertained by *post mortem* examinations; and this, indeed, would seem the only just method of establishing a sound and philosophical therapeutics.

The ancient method of predicating a system of practice upon mere ideal and fanciful hypothesis, was certainly absurd and unsatisfactory, and must of necessity, not unfrequently, have led to mischievous and disastrous consequences. Yet, upon an honest and impartial inquiry and comparison, I ap-

prehend that, notwithstanding a flood of light has of late years been shed upon the science of medicine, by researches into general and pathological anatomy, so far as ability to *cure the sick* is concerned, the moderns have not so much cause for self-gratulation as would at first appear. For the pathology of a disease, as developed by autopsic examination, must necessarily refer to that period which immediately preceded the dissolution of the subject; and it is at least not improbable that some of the morbid appearances were consummated *in articulo mortis.* The pathological condition cannot be ascertained at any curable period of the disease, and has, consequently, at last to be *inferred* from the appearances of an *incurable* period.

I have been induced to make these desultory remarks upon pathology, to show that the argument in favor of exclusively deducing therapeutic medications from appearances after death, is more specious than real, and must frequently lead to a most mischievous practice, as I hope more fully to show when I come to speak of the treatment of dysenteric bilious fever.

Having said this much, I feel inclined to go immediately into the consideration of the proper treatment of this disease, only stopping to premise some conjectures in reference to its probable pathology at a *curable* period, for I care but little about its pathology, so far as the treatment is concerned, when the subject of it is on the dissecting table. But as I set out with a view to be somewhat methodical in this dissertation, I shall proceed succinctly to detail the appearances after death in this disease, as I have repeatedly witnessed, and as noted by others.

Gregory tells us about the "appearances in severe and protracted cases." I regard any case as of reasonable severity when

it affords the practitioner an opportunity for a *post mortem* examination. When dysentery is so "severe and protracted" as to destroy life, we find the mucous membrane lining the large intestines in a condition evincive of a precedaneous high state of inflammation, studded over with small grey or yellow tubercles, occasionally abraded, and sometimes ulcerated, at least some portion of it.* Somewhat elevated above the circumjacent tissue, red patches are to be met with, containing numerous small vesicles. These evidences of primordial phlogosis are, for the most part, confined to the large intestines; though it is sometimes the case that they may be met with throughout the intestinal tract; and Dr. Dewees mentions a case of "black vomit" in dysentery, which goes to show that the mucous membrane of the stomach may also be the seat of sthenic hyperæmia in this complaint.

Dr. Preston, in his observations on this disease, as it existed in Cymerie in 1821, remarks, that "the liver was invariably deeply engaged in the disease; it was, in general, greatly enlarged, and its whole structure apparently entirely destroyed." Dr. Eberle says, "the liver is always, perhaps, functionally deranged in this disease," but, unless where it occurs epidemically in "hot and insalubrious climates," there is, generally, no organic lesion of this viscus.

Having thus cursorily surveyed the more prominent points in the essential pathology of dysentery, to establish its identity with bilious fever, it will be convenient to institute a parallel between them, by a just comparison of their relative symptoms; from which I think it will appear, that, up to the intestinal manifestations, they are undistinguishable.

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* Morgagni mentions one case of ulcerated intestinal mucous membrane only, but cites many others who declare they have seen it. Bayle, Cayol, Vaidy and Fournier esteem it rare. Broussais does not mention it. Dr. Cheyne regards it as common.

SYMPTOMS OF BILIOUS FEVER.

1. Languor, drowsiness, slight chills, alternating with flushes of heat, until the latter predominates and a hot stage is established.

2. Tongue covered with a brownish fur, nausea and occasionally bilious vomiting.—*Eberle.*

SYMPTOMS OF DYSENTERY.

1. It begins with a chilliness and shaking, immediately succeeded by a heat of the whole body as is usual in fevers.—*Sydenham.*

2. Tongue coated with a brown fur along its middle, and sometimes nausea and bilious vomiting.—*Eberle.*

Frequent and irresistible inclination to discharge the contents of the rectum, without a corresponding ability, the effort resulting merely in the expulsion of a little mucus, which may or may not be tinged with blood, or it may be that the discharge be blood entirely—the discharge preceded by tormina, or cutting pains, followed by tenesmus.

It will be observed that the intestinal symptoms developed in the progress of dysentery, alone, have suggested its cognomen, and these alone have given it a specious claim to a separate existence upon the pages of nosology. That there is the same congestion in the portal circle, and derangement in the hepatic system generally, in both dysentery and bilious fever, is at this day, no matter of controversy among enlightened physicians; and the intestinal symptoms that so peculiarly characterize dysentery are, perhaps, legitimately referable to the nature of the exciting cause ; which, acting in such manner as to occasion a sudden centripetal direction of the fluids, sets up a *peculiar* inflammation in the lining membrane of the intestines. Now, it is probable, had the same cause acted less energetically, a bilious fever, and not a dysentery, would have resulted.

It will follow, if my views in reference to the identity of bilious fever and dysentery be correct, that the curative indications, and therapeutic medications will be the same in both; save that shade of difference made necessary to meet the additional symptoms in the latter. It is an unflinching adher-

ence to this theory and practice, that has enabled the author, for the last several years, to close hermetically, in his practice, this widening outlet of human life.

In 1831, the disease prevailed in this district with even unwonted violence, hurrying with demoniac ferocity large numbers from time to eternity. The physicians of the country, with myself, resorted to every expedient to arrest its mad career, or abate its fury, but still it swept onward with unmitigated violence. Fæcal evacuations induced by the exhibition of laxatives, ceased with their operation; and regardless of opiates, the supervention of agonizing tormina, bloody and mucous stools, with tenesmus, were inevitable—calomel in large doses, as advised in the epidemic dysentery of high latitudes, seemed but to hasten the catastrophe. A combination of sugar of lead, calomel and ipecac., followed by anodyne enemata, and preceded by copious blood-letting, failed in its promised beneficence—small doses of calomel, followed by castor oil and laudanum, procured but a temporary respite. Blood-letting, the warm bath, Dover's powder and calomel, to be followed by castor oil, added but another failure. This uniform want of success could not fail to produce feelings of a most unpleasant character, and the reflection that others were equally unsuccessful, (that soothing consolation to a little mind,) but added to the poignancy of the regret. Under this lamentable state of things, opportunities for autopsic inspection were sought with avidity, with a faint hope, that some new indication of cure might thence arise. I examined carefully the body of a negro, who had died suddenly from the disease. The usual morbid appearances were present—congestion of the portal circle with a manifest colonitis. The cells of the colon contained a quantity of hardened fæces, covered with a tenacious, glassy mucus, which seemed to con-

fine these scybalæ to the cells. The tormina and tenesmus, in this case, had been distressing beyond conception, and death seemed to result, rather from the violence of the pain, than the termination of the disease. In my cogitations upon this case, the inquiries arose in mind, may not this condition of the colon be generally present in dysentery? may not the fetid, and *cider colored* discharges, that occur involuntarily just before death, be a solution of these fæces induced by a relaxation in *articulo mortis* and a consequent increased flow of fluid into the bowels and which may account for the empty condition of the colon generally in *post mortem* examinations. Again—medicines that possess a relevancy of action for the small intestines, would not be calculated to dislodge these fæces, but would force the contents of the bowels from above, through the centre of the colon, leaving them *impacted* in the cells on either side.

It is not my desire here to essay to revive the antiquated and obsolete doctrine, that scybalæ are the *cause* of dysentery, for I do not believe it. But I do believe that they, or other accumulations in the colon, are the cause of *death*, and deem it of primary importance that they should be removed. I would not, to be sure, be so infatuated as to continue the purging till these scybalæ were produced in a *tangible* shape, which I believe was the practice formerly in vogue, it being altogether sufficient for my purpose, to continue it until tenesmus and bloody and mucous stools subside.

The foregoing considerations induce me to propose as the proper *methodus curandi* in dysentery,

1. To moderate inordinate action of the heart and arteries.
2. To remove the engorgement of the liver and portal circle.
3. To remove the irritating fæces collected in the cells of the colon.

4. To restore the healthy action of the cutaneous exhalents, by giving a centrifugal direction to the fluids.

The first and fourth indications, are to be fulfilled by blood-letting, nauseants and ablutions with some detergent material—weak, warm ley answers a valuable purpose.

The second and third indication are to be fulfilled, by a combination of calomel, rhubarb and *aloes.* The aloes being an essential ingredient, from its known action upon the large intestines.

Aloes, although under circumstances ordinarily concomitant with hyperæmia of the mucous tissue of the large intestines, is contra-indicated, yet, if my views of dysentery be correct, it follows that it is a *sine qua non*, and with a just conception of the hazard and responsibility of aberrating from the beaten track, and going counter to all authority, I am constrained by a confidence in the article, that the experience of several years has served to strengthen and fortify, to insist upon its exhibition, to fulfil an indication of paramount importance, *that no other agent in the materia medica can fulfil.* A combination of aloes, rhubarb and calomel, is peculiarly felicitous in acting beneficently upon the whole intestinal tract, and simultaneously dispersing congestion of the portal circle, and imparting to the liver a renovated functional energy. It is therefore fitted with peculiar adaptation to dysentery, and whoever exhibits it once in this disease, will not be easily tempted by a specious, and sophisticated ratiocination, to abandon it. The castor oil so frequently advised by authors, and prescribed with so much confidence by physicians, is most unsatisfactory, and I believe mischievous in its operation. From its unctuous and oleaginous quality, it is supposed to glide soothingly over the inflamed membrane, dislodging, and at the same time, defending it against acrimo-

nious humors. This is a great mistake, attended not unfrequently with serious consequences. To prove this, let castor oil be applied as a dressing after vesication by cantharides, when great pain and inflammation will result—applied to a common cut it produces much pain, swelling and inflammation; thus demonstrating its acrimonious character. It were scarcely unfair to trace the seeming intractability of the disease, in many cases, to the frequent exhibitions of this article. It is the exquisite irritability produced by castor oil, that has led those who employ it, into an extravagant praise of opium; so urgent are the tormina, and tenesmus, after the operation of a dose of castor oil, as to demand imperatively a large dose of opium, to secure the patient a temporary respite from intense agony. In the plan of treatment here proposed, castor oil, with all its class, collocated under the head of laxatives, is I think justly, proscribed as nugatory or injurious. It is true they might be made available in cases so slight as to demand but little medical interference; but I hold it to be a good maxim in physic, never to tamper with inefficient means, when we have at command those upon which we can confidently rely.

When called to treat a case of dysentery, if the subject be stout, with a strong, full pulse, I never hesitate to bleed him, more or less, but *always* to an amount that will insure a reduction in the force and frequency of the pulse. If the tongue be coated, with a bitter taste in the mouth, and especially if there be occasional bilious vomiting, an emetic of ipecac. follows the bleeding—so soon as the stomach becomes composed after the emetic effort, I direct that four of Cooke's pills be taken, which failing to operate in six hours, one more is to be taken every hour, till fæcal evacuations are produced. After three or four operations are produced by

the pills, I administer two tea-spoonsful of the camph. tinct. opii to quiet the bowels, and stop any further cathartic effect of the pills—so soon as the dysenteric discharges return, I direct that one of Cooke's pills be taken every hour, till they operate; and if there be much fever, or a dry skin, I prescribe the following powder, to be taken alternately with the pill, till nausea be produced:

℞ Ipecac. gr. ss.
Nit. potas. gr. v.
Cr. tart. gr. x. M.

The operation of the pills to be followed, as in the first instance, by the camph. tinct. opii.

If mucus, or muco-sanguineous discharges again make their appearance, *which I have never yet seen*, the same routine should be enforced. The tenesmus and tormina, by this plan of treatment, are disarmed as if by enchantment, and the recovery *of every case* (and they have been numerous,) in which I have called it into requisition, has been most rapid.

As the thirst is very urgent in this affection, and as cold water, so much craved by the patient, is almost certain to excite griping, I direct him to drink common table tea, made palatable with cream and sugar, or sage, or balm, if he prefer it, with the privilege of returning to cold water, whenever it fails to excite griping. The diet of course should be meagre, consisting of rice-water, thin gruel, sago or tapioca.

When the accompanying fever is of the intermittent type, one grain of the sulphate of quinine is ordered every hour, till twelve grains are taken during the apyrexia, regardless of the dysenteric symptoms. The quinine to be followed by Cooke's pill.

In children too small to take the pills, the same compound is exhibited in powder, the dose being graduated to the age

of the patient. It is absolutely astonishing, with what facility and certainty these powders, with nothing else, save a few drops of paregoric after their operation, will entirely remove this complaint in small children. Where the little sufferers have become low from neglect or mismanagement, I have derived the greatest benefit from washing their whole bodies well, with warm weak ley, drying them carefully, and putting them to bed, before any medicine is exhibited.

I have had, for the last four years, frequent opportunities of testing the efficacy of this practice, and can say, with the most rigid adherence to truth, that I have never lost a patient with dysentery since I adopted it; which was in the very height of one of the most afflictive and fatal visitations ever known in this region.

February 21, 1840.

ART. IV.—*Facts relative to the Endemic Disease called, by the people of the West, Milk-Sickness.* By WM. J. BARBEE, M. D., late of Marshall, Illinois.

MY observations and experience upon this singular malady are quite limited. I am induced to contribute my mite towards solving its mystery, upon the principle that the aggregate of small items makes up the sum of human knowledge. I have no conjectures to offer, but wish to state a few facts which have come within my own knowledge, touching its *locality*, its *vegetable origin*, its *symptoms*, *treatment*, and *anatomical characters*.

Of its locality.—I have seen the seat of this endemic in Kentucky, Ohio, Indiana and Illinois.

In Kentucky it prevailed with some mortality, three and four years since, in Harrison county, a few miles from Cynthiana, on a small creek, chiefly amid rolling and hilly land. An account of it was published from the Inaugural Thesis of Doctor John Newton Smith, now of Paris, Ky., in the Transylvania Journal for April, 1837.

In Ohio, upon Mad river and the Great Miami, the destroyer has been making its victims for the last thirty years. I remember, seven years since, when a student of medicine, residing at Troy, on the Miami river, there were several cases, one of which I saw; and that they all occurred on a particular side of the stream, and so prevalent was the opinion that the disease was confined to one side, that the butchers would never purchase their beef from that quarter; and the inquiry was common at the market-house, "on what side of the river was this beef killed?"

In Indiana a few cases occurred, during the past summer and fall, in Vermillion, Vigo, Sullivan and Knox counties, all of which are situated on the Wabash river.

In Danville, ——— county, Indiana, during the fall of '38, and the succeeding winter, spring and summer, as many as sixty persons died of the disease, together with a number of the cattle.

In Illinois, several cases have occurred in Edgar county, about twenty miles northwest of the Wabash river.

All of these localities I have seen, with the exception of Danville, and I have never been able to discover in them any peculiarity as to topography or geology. Nor have any circumstances in the history of the "Milk Sick" in these districts enabled me to approach nearer to a discovery of its

cause, than that it probably has a *vegetable origin.* What plant, flower, vine or root, out of all the rich vegetation of the west, can be the cause of so dire a malady as the sick stomach? Be it what it may, it seems to seek no peculiar station. It is on the rocky cliff and in the rich meadow; on the green hillock and in the gloomy swamp. It grows in the thick forest, and upon the wide-spread prairie.

By some it would be deemed altogether unnecessary to offer any thing in support of the supposition of the vegetable origin of this disorder. This is the most popular theory, and has more facts to sustain it than that which contends for a mineral poison; or another, perhaps the most fanciful, which boldly declares the disease to be owing to some peculiar modification of the atmospheric air—a theory applied to every obscure epidemic, and one which serves as a cloak for our ignorance.

But I am rather departing from my design. As long as the subject remains a matter of doubt, it becomes no one to affirm positively that the cause of the "sick stomach" is, or is not a vegetable, mineral or ærial poison; but, from all the information I possess, I am induced to believe that *several vegetable substances may give rise to the complaint.*

And here let me ask, why should we endeavor to limit the cause of any disease to a single agent? Why, for example, will authors tell us that *the cause* of intermittent fever is marsh miasm, when observation shows that atmospheric vicissitude is a cause (to mention no other) almost equally as powerful.

But to the facts.

Cows have been enclosed in large woodland pasture, or let out to range upon particular sections of land, without having access to any other water than that from a neighboring creek

or branch, which, from common and constant use, was known not to contain any deleterious agent, and their milk has, in numbers of cases, given rise to the disease. The same cows have died of *the trembles.*

In November, 1838, a family of six persons, travelling westward, put up at a house a few miles east of Terre Haute, Indiana. At breakfast they all partook freely of *butter* and *milk*, and immediately departed on their journey. By the time they reached Illinois, in five or six hours, they were all taken with nausea, vomiting, &c. and died, every one of them, in from two to six days. Upon inquiry it was ascertained that the place where they had taken their breakfast was in a "milk-sick" region.

About the same time I saw, in Terre Haute, Doct. David Dale Owen, then State Geologist of Indiana, who informed me that he had been, for a day or two previous, in a "milk-sick" district in the northern part of Vigo county, and that a plant was given him by a farmer of that section of country, which he believed was the cause of the complaint. This plant, we decided, was the *Eupatorium ageratoides*, although we might have been mistaken, as we both acknowledged ourselves poor botanists.

Dr. Owen stated, that he had made a decoction of the leaves and stem, and administered a draught of it to a calf. In a short time it had what is called "*the trembles;*" became subsequently parlysed, stiff in its joints, uttered a most doleful noise, and in a few hours died.

In Vincennes, Knox county, Indiana, during the past fall, a number of citizens were under considerable alarm, in consequence of the death of a few persons in the neighborhood, who had been taken soon after eating *butter* and drinking *milk*, obtained from cows who died with the trembles. At

the same time several cattle, who had been feeding on the opposite side of the river, were found dead. A number of families of the town were afraid to use any butter brought from the country. This information I obtained from a respectable citizen of that place. I believe a professional gentleman of Vincennes had, at that time, some dried specimens of a plant which was supposed to be the cause of the disease.

I have conversed with physicians residing in Sullivan county, Indiana, and in some of the eastern counties of Illinois, and, from all the evidence I could collect, I was induced to believe that the disease had its origin in some poisonous vegetable.

In addition to the plant already mentioned, I have been shown specimens of the *R. Radicans*, poison vine; *R. Toxicodendron*, poison oak; and *R. Vernix*, swamp sumach; and, from several gentlemen of Indiana and Illinois, I have been assured that their cattle have been affected like the calf destroyed by the Eupat. ageratoid., in consequence, as they believed, of feeding upon these several vegetables.

I have given the Eupat. ageratoid. and the R. Toxicodendron to dogs, and the effects upon both animals seemed nearly similar. I am sorry that I cannot here give an exact detail of these two experiments. I noted them down accurately at the time, and placed the paper with several others which I have not with me. I think, however, I can state the result in general from memory.

1*st Dog.*—Took the Eupat. ager. in decoction; had no effect for an hour, when he began to shake by intermittent jerks, as dogs usually do when they are said to have the "shaking palsy;" in half an hour after this, vomiting commenced; matter ejected of a dark appearance and very offen-

sive smell; in a short time he became prostrated, whirled about on the ground, until, finally, he lost the power of motion, became stiff, tried to howl, and in about three hours from taking the decoction he was dead.

2*d Dog*—Took a decoction of R. *Toxicodendron.* Its effects were manifested in half an hour—he ran round the yard, at first very playfully, but soon commenced yelling as if he had been injured or scared. Occasionally he would fall down, and falling would make a long stagger. In about an hour from the commencement of the experiment vomiting commenced, accompanied by violent spasms — the animal drew himself up as if the misery he was suffering were in the abdomen. The pupil was almost closed. Respiration finally became very hurried and laborious, and in two hours from taking the draught he died.

Now what do these experiments prove? The *probability* that the dogs had what, among cows, is denominated "*the trembles*," and that the affection may be produced by more than one plant.

There are a great number of noxious vegetables growing every where in the west which are as fatal to life as the poison causing the "milk sickness." Who that has lived in Ohio or Kentucky has not seen cows lying in rows under buck-eye trees? I once assisted in the dissection of a cow found in this situation, and upon opening her stomach and bowels they were found literally loaded with half-chewed buck-eyes. Yet a cow may be turned out in buck-eye woods and fed with impunity; she may either eat the buck-eyes or not, and in case of eating them, the quantity taken may not be sufficient to destroy life; or her vital powers may resist the poisonous agency of any quantity. This fact, I am confident, obtains in the disease under consideration—a cow may feed in a pas-

ture where the "milk-sick" season exists. She may never touch it, or she may eat or drink freely of it and continue in good health. Another cow, perhaps, feeding with her will contract the trembles and either recover or die. This remark may be extended to other inferior animals, and to the human subject. Individuals, as well as several of the lower animals possess different susceptibilities to the disease. Horses and hogs, it would seem, are not so liable to the disease as cows and dogs. And, of a given number of individuals who have partaken alike of poisoned *butter* and *milk*, some will merely sicken, others will vomit, and others will die, the whole with or without treatment. I would respectfully offer these facts in reply to the remark of one of the editors of the Journal, that the sick stomach could not be owing to the R. *Radicans* or *Eupat. agerat.*, inasmuch as these plants grow throughout the west, while the disease is "*perseveringly limited to certain localities.*"

There are certain dietetic and therapeutic articles which, when received into the stomach, have different destinations and exert different influences; increasing the activity of the brain, of the heart, or of the secretion of bile, urine, &c.—and further, these substances may affect the quality of secretions as well as the quantity. We have for example a number of articles which exert a change upon the chemical constitution of the urine. In the same way the milk of the cow may be altered in its quality by several agents taken into the stomach, so as to change its nutritive virtue into a poison.

Symptoms.—Most writers upon this disease divide it into three stages:—1. The forming stage. 2. The stage of excitement and vomiting, and 3. The stage of collapse. All of these may or may not be well marked. Circumstances may so operate upon a case as to blend the different stages togeth-

er or to change their character, as here laid out, in such a manner that no one can readily distinguish them. For convenience, however, the division may be admitted. I derive all that I have to say upon the symptoms from two cases which recently came under my observation, regretting that my experience is so limited.

Mr. F——, a traveller, had been riding through a "milk-sick" region and treated the matter as a humbug, declaring that he was not afraid to eat any butter or drink any milk that might be placed before him. I was called to him about eleven o'clock at night—he was attacked at dark, and according to the description of the bystanders complained at first of giddiness and weakness, became stupid and indisposed to move. In the course of an hour he said he was burning up at the stomach, and shortly afterwards vomiting commenced. This continued till near the time of my arrival, when he was so completely exhausted that he could not speak. I could scarcely feel his pulse—the extremities were cold, and his breathing scarcely audible. In about an hour from the time that I reached the house he died.

Mr. D—— was taken on September 14th, 1839, with general debility amounting to an overwhelming feeling of depression and smothering—inability and disinclination to move—loss of appetite and listlessness, accompanied by a peculiar fœtor of the breath, which cannot be described. To me it was not unlike the smell of a small pox patient. In a few hours the patient complained of nausea and a burning sensation at the stomach, which was soon followed by vomiting. Shortly after this occurred I saw him and learned from conversation with his wife, that he had on that day killed a young heifer, and cooked a piece of the meat on the coals and eat it, and that no other person had tasted it. I expected to find

the vital energies greatly prostrated, but an examination of the pulse agreeably disappointed me. This was about 90, pretty full and strong, but I was afraid to employ venesection. The pupils were dilated but a strong light contracted them. The head was quite hot, and likewise the body—but the extremities were slightly cold. The patient lay semi-comatose, and I felt confident that any powerful depleting course of treatment would but hasten the sinking stage which was fast approaching. Nothing had passed the bowels for twenty-four hours, and I should have mentioned that before my arrival he had complained several times of severe spasm of the bowels.

The management of this case, together with some reflections, will constitute what I have to say on the subject of

TREATMENT.

In treating this case I was guided by first principles and facts. The symptoms were such as to convince me that *gastritis* was present, accompanied by spasmodic action of the bowels, more particularly of the colon in its descending portion ; and further that there was a strong tendency to intense susception in this bowel. This condition of the colon I regarded as a chief cause of the obstinate constipation always present in the disease ; and as the experience of practitioners coincided in establishing the strong probability of a patient's safety in the event of free evacuations, I directed my attention particularly to this point. But in effecting this important end, I was cautious of the means employed. I have noticed with no little surprise that many western physicians have declared (and some of them in medical journals,) that nothing but drastic purgatives will save a " milk-sick " pa-

tient. This is their logic: the bowels are locked up—the worst possible form of constipation exists—purgation must be effected—mild laxatives will not answer the purpose—therefore something active must be employed. Now let all the facts with regard to this pathological state of the bowels be admitted. I think the deduction is a wrong one which leads to the administration of drastic purges. The strong tendency to gastritis, if indeed this does not already exist, forbids the use of any thing so irritating. I would as soon think of giving brandy to allay the action of the heart and arteries—or a large dose of calomel, jalap and gamboge to cure a dysentery. But there is another consideration which should induce us to withhold any thing of a very stimulating character to the stomach and bowels, as well as to be guarded in adopting an active antiphlogistic course of treatment. We have something more than a simple gastritis to contend with—we have a gastritis the result of a *narcotic irritant;* we have, as will be more clearly shown hereafter, a constricted, if not a spasmodic condition of the colon; and last, but not least, we have a brain and nervous system, in truth the whole system, laboring under the influence of a poisonous agent. While then we are directing our efforts to restore to healthy action the stomach and bowels, believing that if these be corrected the other organs will take care of themselves, let it ever be borne in mind that the whole man is sick from head to foot, and that as every constitution has its peculiarities our treatment must be modified accordingly.

To proceed to the treatment of the case just mentioned. I applied six cups to the region of the stomach, and ordered cold affusion to the head. Sponging the body with vinegar and water, and bathing the feet and legs in hot water. In the course of an hour, the vomiting abated considerably, and

in order to palliate his thirst, I gave him a few soda powders. Having thus composed his stomach, reduced the force and frequency of the pulse and the heat of the head, and established a more equal circulation—I left him with a mild cathartic of calomel and rhubarb, and milk-warm slippery-elm tea as a drink—giving special directions to keep his head cool and his feet warm. In five hours I returned. Cathartic had had no effect upon the bowels—patient had complained several times of severe spasms. Head was pretty cool, feet warm; gave him a dose of castor-oil and left him again—returned in five hours—no evacuation, some burning of the stomach—pulse eighty; occasionally spasms of the bowels which appeared to be confined to the left side of the abdomen and to take the course of the descending colon. I at once determined to put into execution a measure which I had resolved upon previously, in the event of continued constipation. I introduced into the rectum a flexible gum elastic tube, about eighteen inches long, and passed it up into the colon nearly the whole length; into this I succeeded in injecting about a quart of warm salt and water. In less than fifteen minutes the patient had a large fæcal evacuation, at first compacted, but gradually assuming the consistence of mush, and a bilious colour. This was succeeded in the course of an hour by a second evacuation of the same character, and I left him with directions to take in a couple of hours ten grains of blue mass. On the next day he had a good appetite and felt disposed to leave his bed. This, however, I prohibited, and by watching him closely for two or three days succeeded in restoring him to health.

Anatomical characters,—The calf which was destroyed by the Eupat. ageratoid. was examined a short time after death by Dr. Owen, and the only pathological condition he men-

tioned to me was a dry, contracted and thickened appearance of the coats of the stomach.

The following is the autopsy of the two dogs:

1st Dog, who took the Eupat. ageratoid. Lining of the mouth, fauces and œsophagus fiery red.

Stomach—size smaller than natural; in every direction corrugated. Hypertrophy of muscular and mucous coats—mucous coat inflamed; presented distinct patches of permanent vermillion redness; some softening in the spots not affected with hyperæmia.

Duodenum.—Mucous lining of superior part, red.

Jejunum and Ileum—natural.

Colon.—Descending portion contracted, so that the greatest diameter which could be found did not exceed three quarters of an inch, and it presented the appearance of being bound by ligatures in several places.

Peritoneum—natural.

Liver was withered and wrinkled, almost exsanguineous, and all the bile seemed to have collected in the gall bladder, which was very much distended,

Thoracic viscera.—Very black blood in the parenchyma of the lungs; rest healthy.

Brain was not examined.

2d Dog, to whom the R. Toxicodendron was administered. The same pathological states were discovered, with the exception of an intussusception in the colon in place of the several constrictions.

Autopsy of Mr. F.

External appearance, emaciated; physiognomy frightful—looked like an old man of eighty.

Cavity of the abdomen. Stomach—muscular coat natural; colon—puckered and so contracted as to shorten the longi-

tudinal diameter; cardiac and pyloric orifices rigid; mucous coat deep red and thickened in spots, balance presenting a rather pale and softened appearance.

Duodenum, Jejunum and Ileum in their peritoneal covering inflamed.

Colon.—Descending portion contracted to near the size of a common candle; two very narrow places, as in the gut of the first dog—and about two inches above the sigmoid flexure there was a partial intussusception.

Liver shrunk; quite blue; gall bladder distended.

Spleen and Kidneys natural.

Thorax.—Mucous coat of bronchiæ and air-cells very red.

Lungs contained considerable black blood.

Heart and Pleura natural.

Permission could not be obtained to examine the brain.

A word or two and I shall close this paper. I deem my knowledge of this dreadful malady very trifling; and as I, with hundreds of others, wish to acquire some information respecting it, it is to be hoped that all who have had practice in the disease, will give the profession the result of their observation and experience.

Cincinnati, 1840.

ART. V.—*Practical Observations on the Disease denominated Milk-Sickness or Sick-Stomach.* By Dr. M. WINANS, of Green county, Ohio.

IN the Western Journal of Medicine and Surgery, for January, 1840, I notice some remarks headed "Milk-Sickness *alias* Sick-Stomach." To these names I would add that of *Paralysis Intestinalis*, which expresses the nature of the disease more fully than any I have seen.

In this disease the great difficulty is to arouse the bowels to action; the peristaltic motion is almost, and in some cases entirely, suspended, and yet the bowels are not usually constipated. I have rarely met with hardened fæces at any stage of the disease, and I may say that my practice has been pretty extensive. Formerly the disease prevailed every year in this section of country, (the eastern part of Green county, Ohio,) and I think it probable that I had from three to five hundred patients during the whole time the disease prevailed. It has now nearly or quite vanished away. I have met with but few cases for the last four or five years.

Cause.—This disease is evidently caused by a poison, which, I think, is of the vegetable class—because animals as well as men are subject to it in the sections of country where it prevails. But as to the particular vegetable which produces it, I am not fully satisfied. I am now of the opinion that it is produced by the *Champignon*, or at least by some of the mushroom tribe. This opinion is founded on the fact, that the disease never prevails except adjacent to thick, shady forests. When the woods are cleared off, the disease vanishes, and it never prevails in prairies or open ground of any kind. I was first led to this opinion by reading of the poison-

ing of the inhabitants of the West Indies by *Champignons* or mushrooms, which they used as food; but which, gathered from dense forests, were poisonous, although, when gathered in open grounds, they were eaten with impunity. I have noticed, in riding through our forests, a great variety of mushrooms of a small growth and of gaudy colors; some deep red, some pale red, some yellow, and some brown; and I have also observed them growing in beds of moss, of which animals are remarkably fond. I have, for many years, discarded the notion that the disease was produced by a weed of any kind. The hog is more subject to the disease than any other animal; and we know that he is very choice in his selection of weeds for food, and there are but few kinds that he will eat; but of the mushroom he is very fond.

Symptoms.—External nausea and vomiting, with a great loss of muscular power; very little, if any, fever or headache; skin cool and natural to the feel; great thirst; tongue clean or slightly furred; pulse not much excited; very little, if any, pain in any part of the body, but an uneasy, restless sensation, which is expressed by the eye, as well as by other motions of the body. These symptoms continue for four or five days, and then the vomiting ceases, but the nausea continues, and a torpor of the whole system supervenes; sometimes the coffee-grounds vomit precedes the termination in death.

TREATMENT.

Calomel is the only medicine that we can expect the stomach to retain; and even it is frequently evacuated by the excessive vomiting. We have to resort to the syringe, and

persevere day after day, until we overcome the paralyzed condition of the intestines. When we succeed in removing the disease, the convalescence is rapid, only requiring a few days for the re-appearance of good health.

February, 1840.

ART. VI.—*History of a Case of Intussusceptio, in which the patient recovered after discharging twenty-nine inches of Intestine.* By Dr. JOHN DAWSON, Jr., of Green county, Ohio.

THE subject of this case was a boy, J. H. T., 6 years of age, of sanguineous temperament, and predisposed to spasmodic pains in the bowels. He was attacked with these pains and vomiting on Saturday, May 25th, 1839.

I was called to the case the same day and commenced the treatment by fomentations to the epigastric region, a mercurial cathartic, and an anodyne, in the event of a free discharge from the bowels.

Sunday, 8 o'clock, A. M.—Medicine has had no effect on the bowels, vomiting still continues, patient ejects nothing but the secretions of the stomach, pulse 90 to the minute and regular. I now ordered 12 grs. calomel, followed by an infusion of senna.

Monday, 9 o'clock, A. M.—Patient had much restlessness the previous night, medicine not operated yet, vomiting more frequent, accompanied with severe remitting pains in the epigastric, and right and left hypochondriac regions. Injections of jalap and neutral salts were now ordered. Upon their third repetition the obstinate torpor of the bowels gave way

and a copious discharge of green crude currants made their appearance in the alvine evacuation.

Tuesday, 7 o'clock, A. M.—Medicine operated three times the previous day and evening, gastric distress not mitigated. Tongue clean and red, skin above the natural temperature, intolerance of warm drinks, pulse somewhat contracted and quick, extremities cool, epigastrium tender. Venesection and a vesicatory to the epigastrium were now resorted to. Also tartaric acid dissolved in a solution of gum acacia, every few hours.

Wednesday.—Evacuations from the stomach lessened in frequency, pulse small and tense, skin hot and dry, tongue covered with undefinable patches of white fur, and granulated on its sides and apex. I now prescribed pills composed of a grain of calomel and a grain of opium, one to be taken every four hours.

Thursday, 4 o'clock, P. M.—Dr. J. Templeton appeared in consultation. Gastric uneasiness moderated, but bowels obstinately constipated. *A tumour about three inches in diameter* now made its appearance in the right lumbar region. With the Doctor's advice vigorous enemata were freely administered and the pills above referred to continued.

Friday, Saturday and Sunday.—No essential change for either better or worse. During this time however there was occasional pain in the bowels, and they continued torpid. The abdomen became distended somewhat, and gas-bubbles could be heard traversing the alimentary canal. On Sunday evening I ordered oleum ricini ℥j., invited to action in two hours by an enema, a blister to the abdomen, and dressed when it took effect with an emollient cataplasm.

Monday, June 3d.—Medicine has taken no effect on the bowels, abdomen much distended and tympanitic, pulse fre-

quent, small and tense, tongue coated white, and the papillæ protruded. I now ordered an emulsion of saccharum solution ℥ss.; oleum terebinthinæ ℥j; oleum ricini ℥iij; and tinct. opii. 30grs. Two drams of this to be administered at intervals of two hours.

Tuesday, 4 o'clock, P. M.—Emulsion produced copious discharges of a pale yellow color, approaching to the natural. With these discharges, contrary to my expectation, the patient's strength was lessened, the action of the heart and arteries became irritated and irregular, abdominal intolerance to pressure increased, the tongue assumed a white glazed appearance with red granulated edges; the countenance contracted and anxious; and excrutiating pain in any other position than on the back with the knees drawn up.

Wednesday, June 5.—Patient better; abdominal pain lessened; the frequency of the pulse and its tenseness giving way; the pale contracted countenance gradually assuming a lively expression, and the abdominal protuberance somewhat retracted.

The patient from this time wore the appearance of convalescence, was dieted carefully, and on the 11th June expelled per anum, with a stool, twenty-nine and a half inches of intestine, including the appendix vermiformis, part of the cecum and colon.

You will observe, 1st—That with the exception of the *tumor* that made its appearance in the right side, this disease wore the appearance of *gastritris*, followed by *peritonitis.* And that the remedies addressed to the case were in accordance with that view of its pathology. Perhaps now, no better diagnostic makes its appearance in intussesception or gastritis than the *tumor* incident to the former.

2d.—That on Tuesday, June 2d, the patient had symptoms

of the escape of fæcal matter into the cavity of the abdomen.

3d.—That the expulsion of the diseased bowel took place on the seventh day after the first attack.

February, 1840.

ART. VII.—*An account of a case in which there was extensive tubercular deposits in the serous membrane, sub-serous cellular tissue, and false membranes.* By GEORGE W. BAYLESS, M. D., Dissector for the Pathological Cabinet of the Louisville Medical Institute.

IN presenting the following case for publication, I am governed rather by a desire to give as far as can be obtained, the detailed history of a patient, in which were found upon examination, some uncommon, but not new, pathological appearances, than by the belief that it will prove of much practical utility. That we are not allowed to hope for the latter, we are compelled to acknowledge, when we contemplate that the profession is so meagre in means for the prevention and cure of tubercle in any of its situations: a lamentable truth, growing out of the fact, that its nature and causes, remote and proximate, are still among the hidden things of Nature. Including the various localities which it assumes, and the various ages in which it makes its appearance, it constitutes, or more properly, lays the foundation of a large proportion of the loathsome and fatal maladies to which we are liable—presents a subject, than which there is none connected with medicine more deeply involving the best interests of humanity—affords a broad field of action for those of the profession who find an elevated pleasure in ardent, zealous labor for the

furtherance of its interests—and invitingly tenders the most eminent distinction to the ambitious aspirant. But notwithstanding the great obscurity in which this matter is wrapped, when we take a retrospect of what has been accomplished in *physical* science, are we not justified in the hope, that nature will at length reveal the mystery to some one who will patiently and industriously wait upon her? And this hope is strengthened by the knowledge, that the period in the history of medicine has arrived, when instead of visionary theorizing, well authenticated facts have come to be more highly prized, and to be considered the only legitimate data upon which reasoning may be founded, and conclusions drawn. In view of this then, we conceive it to be the bounden duty of every member of the profession to make public any new or uncommon facts, which may come within his observation, especially connected with a subject of such vital consequence: a duty which he owes to his profession, and through it, to society.

The subject of this communication was a negro woman, belonging to a gentleman living in the neighborhood of this city. She was about nineteen years of age—of medium height—very spare, exhibiting a very small development of the muscular system; which appearance, we were informed, she had always presented—chest small, in both its lateral and antero-posterior diameters. She had one sister to die of phthisis, and another of an obscure disease, very similar in its symptoms, to the one with which she was affected, but in which no post-mortem examination was made. She herself had, notwithstanding her very delicate form and appearance, always enjoyed good health, until a few months after giving birth to a healthy child, in August, 1838. At the time of which we speak, she was affected with a troublesome cough, little viscid mucous expectoration, and which was attributed

by her sister, to a cold which she took shortly subsequent to her delivery. It was treated during the winter with some domestic remedies, by which it was mitigated, and in the spring, being entirely relieved of it, she regained her flesh and strength, and resumed her ordinary occupation of cook. Her health continued very good, and sometime in the latter part of November, her mistress discovered that she was increasing somewhat in size. She supposed her to be pregnant, and, as the girl made no complaint, took no further notice of it. Sometime in the early part of January, perceiving that she had become very *ashy*, and that she again had a cough, similar to the one with which she had been affected the previous winter, she found upon inquiry, that the girl complained of nothing except the cough—stating, also, at the same time, that she had felt a movement, about a week before Christmas, which she supposed to be a child, and that the menses had stopped about the same time. She confessed also, that she had changed her woollen for light clothes—and had gone to a ball and danced all night, during the Christmas holidays. It had been observed also, that, about the last of December, she increased very rapidly in size; so as in a few days to present the appearance of a woman in the sixth or seventh month of utero-gestation. About the 8th or 10th of January, the time above referred to when she was first observed to look so badly, she had diminished visibly in size, but was still, from her appearance, and her own belief upon the subject, supposed to be pregnant. Some circumstances that occurred subsequent to this time, induced the suspicion that it was a case of ascites, but it was considered doubtful, and only some of the milder diuretics were employed without effect.

On the 30th of January we were called to see her, and found her in the following condition:

Some obvious emaciation; quite weak; skin generally flaccid, cool, and (upon the face) of an ashy appearance; face thin; countenance compressed and anxious; tongue very lightly covered with a white fur; and, together with the mucous membrane covering the gums and mouth generally rather pale; no thirst; appetite tolerably good, the stomach retaining very well whatever food was taken; no pain produced by pressure or percussion upon the epigastrium, or any other part of the abdomen; bowels in a very good condition; thorax, as before observed, small, but no difference in size of the two sides; did not emit, upon percussion, the resonance of a finely formed chest, with corresponding lungs, but there was no very marked flatness of sound in any part; the sub-clavicular region of each side being a little dull; the stethescope revealed only some sonorous mucous rhonchi in different portions of both sides, together with very slight blowing sound at the apex of the left lung, but quite plainly marked in the same portion of the right; cough tolerably frequent; expectoration transparent viscid mucus, with occasionally a portion of opaque mucus, such as is commonly seen in the declining stages of acute bronchitis; and, lastly, some uneasiness of respiration, but not amounting to a positive dyspnœa. There were no particular cerebral symptoms. Pulse one hundred, rather small, but somewhat tense and quick.

The next point to be ascertained was, to what must her increased size be attributed—whether pregnancy, (as she herself had believed and the family supposed,) or ascites?

In regard to the signs of pregnancy: In the first place, her size would indicate that it existed; but some circumstances connected with this appearance detracted from its importance and weight in leading to this opinion. As there was not the

hard, resisting, distinct tumor, which is commonly to be felt in this state; the abdomen was very tense and dependent in the erect position, but was loose and flaccid, and had a soft doughy feel in the recumbent; the tumor assumed various positions, according to that in which the patient was placed, leaving the hypogastric and being generally diffused over the abdomen when lying on her back, and gravitating to either side as she was induced to assume a position upon one or the other; besides, there was a very distinct fluctuation discovered by percussion.

Secondly. There was no change in the appearance of the breasts, the nipples, aveolæ, and whole mammæ, being in a flaccid state, instead of being firm and *erect*, as would be expected at the sixth month of utero-gestation.

Thirdly. There was no suppression of the menses until about the time when she supposed she felt the movement of the child.

Fourthly. She never felt but one movement, although at least six weeks had elapsed since that time.

Fifthly. An examination per vaginam did not reveal any change in the neck of the uterus, and the os uteri projected into the vagina, as in the unimpregnated state, whereas we might have expected it to be almost obliterated. And again: the os uteri was down in the cavity of the pelvis, in its natural position, instead of being as high as the plane of the superior strait, as might have been expected.

Sixthly. No movement could be excited in the supposed existing fœtus, by the sudden application to the abdomen of the hand, which had been previously immersed in cold water.

Seventhly. Not the slightest pulsation of the fœtal heart could be discovered in any part of the uterine region, by means of the stethescope; neither any thing like the utero-placental soufflet.

In this detail we find only three circumstances which could lead to a suspicion of the existence of pregnancy. The tumor of the abdomen; the suppression of the menses, and the *movement* which the patient had experienced. In regard to the first, it presented none of the characters attendant upon pregnancy, while it exhibited all those of ascites; the fact of exposure to cold, above mentioned, also leading to the same conclusion. In reference to the suppression of menstruation, it could hardly be entitled to much weight in this connexion. For, although its cessation at the late period spoken of, did not preclude the possibility of utero-gestation somewhat advanced at that time, for the reason that females have been known to discharge a *sanguineous* fluid in the early months, and even up to the full term, yet the circumstance of the discharge recurring at the regular periods up to the time when she supposed that she felt the movement of the child, rendered it suspicious; and when viewed in connexion with the other circumstances of the case, together with the fact that there was entirely sufficient cause to account for the suppression, in the supposition of the existence of ascites, led to its being discarded as unworthy of any considerable weight, in determining the nature of the case. As to the *movement* spoken of, she pretended not to have felt it but the once, and we concluded that she had been mistaken in that.

These facts then, and this view of them, induced the belief that it was clearly a case of ascites: and it only remained to ascertain the cause of it. From all that we could gather, there was not the slightest reason to suppose the existence of organic disease of the kidneys, liver, spleen, or heart, and not to a sufficient degree, of the lungs, to afford any obstacle to the circulation.

We then unhesitatingly declared the opinion—that as re-

garded the lungs about which much anxiety had been manifested, there was some tubercles, in the first stage of their formation, in the apex of the right lung—some few, but not so many, in that of left—but there was not sufficient in quantity, nor in a state of softening, &c., to cause fear of any immediate danger from that source. Secondly, that she was not pregnant; at least, not so far advanced as her size would indicate: but that she might *possibly* be in the first or second month, on which point, we of course could not be positive. And thirdly, that it was a case of idiopathic ascites, most probably resulting from cold—and very doubtful in its issue.

With this view of the case—considering the abdomen the point of most interest and requiring immediate attention—and considering the proximate cause of the effusion to be a sub-acute inflammation of the peritoneum, which probably had not yet entirely subsided, as the pulse seemed to indicate, although there was no pain present, we could not hesitate in deciding upon the adoption of an antiphlogistic plan of treatment. We accordingly bled her to ℥ ℨ x.—to aid in the diagnosis, and also to ascertain how she would bear it. The pulse became soft and feeble, and fell to about eighty towards the close of the bleeding—and she complained of feeling weak. She did not however complain but a few minutes after the arm was tied up. The blood did not exhibit any appearance of the buffy coat—there was a dark, tolerably firm clot, but very small in proportion to the quantity of serum. The pulse rose again in a few hours to one hundred, but not so tense and quick. And we will here state, that it never afterwards (until shortly before death) fell below one hundred, notwithstanding the treatment to which she was subjected: but that it never was so quick and tense as before the bleeding.

She was now put upon the following prescription :

℞ Calomel, gr. ii.
Pulv. scillœ, gr. ii.
do. digitalis, gr. i. M. ft. pulv.

The powder was given three times a day, together with a solution of sup. tart. potass. an ounce to a pint of water, to be given hourly, so that the whole should be taken in the twenty-four hours. There was generally about three dejections in twenty-four hours, thin, watery, and most commonly mixed with a light greenish bile. Urine, scanty and high colored—not coagulable by heat.

This treatment was continued four or five days, without any obvious change, when Professor Drake saw her. He concurred with us in our view of the case, and approved of the treatment in every particular. Upon finding considerable flatness of sound upon percussion, in the lower regions of the thorax when the patient was placed in the erect position, he suggested the probability of there existing an effusion in that cavity.

The treatment was continued four or five days longer, without any change in the symptoms ; and the pulse continuing at one hundred or more, but not full, nor strong enough to justify the use of the lancet, we omitted the squills, thinking them too stimulating, and substituted five gr. of nit. potass. in their place—leaving off at the same time the use of the sup. tart. potass. After two or three days there was an evident increase in the quantity of urine, and seemingly a diminution in the size of the abdomen—the evacuations from the bowels being the same, and the pulse still continuing one hundred.

From this time her strength began to fail rapidly, without any change in the symptoms, save some delirium, probably

produced by the digitalis, but which subsided in a few hours, upon its use being suspended for the time.

Did not see her for several days, but was told that she continued to grow rapidly weaker, and died on the 21st of February.

Examination of the corpse eighteen hours after death:

Exterior.—Very considerable emaciation. Abdomen very much reduced in size from what it had been, four or five days before death.

Head—not examined.

Thorax.—Upon attempting to lift up the sternum with the cartilages of the ribs, found them firmly adherent to the surface of the lungs. This adhesion existed throughout nearly the whole surface of both lungs, and so strong at the apex of the left, as to cause a considerable laceration of the substance of the lung, in the effort to detach it. There were some points of both lungs unattached, and a space of some size at the lower posterior portion of the right, in which there was about half a pint of bloody serum. There was, over the whole surface of the pleura costalis and pulmonalis, deposites of tubercular matter, about the size of common squirrel shot, only that they were compressed spheres. Some spots were larger, but none of them softened. In the apex of the right lung there were a good number of masses of tubercular matter, about the size of the extremity of the little finger, and four or five of them in that of the left lung, together with some small points throughout the substance of both lungs.

Heart.—In the cellular texture which lies about the pericardium, there was a considerable quantity of coagulable lymph of recent deposite. Also, one patch, nearly an inch square, on the surface of the heart, besides some smaller ones.

No lesion in the interior; but in the substance of, and beneath the lining membrane of the aorta, about half an inch from the semilunar valves, were some patches of tubercular deposite, thus showing, by analogy of lesion, the similarity of this to the serous membranes.

Abdomen contained between three pints and half a gallon of bloody serum.

Stomach and Bowels—Covering the whole of their surface, there being scarcely a naked spot as large as the extremity of the little finger, were deposites of tubercular matter, in the substance of their serous coat, and in the sub-serous cellular tissue, varying in size from that of a small shot to oval and circular patches of half an inch in diameter. The stomach was pretty firmly adherent to the concave surface of the spleen by false membrane—the bowels perfectly agglutinated into a mass, and also firmly adherent to the parietes just below the spleen. In the substance of these false membranes, particularly those uniting the convolutions of the small intestines, were masses of the same kind of matter, though not so large as some of those on the stomach and bowels.

Mesentery.—The same appearance was presented by its surface as by the stomach and bowels. In the cellular tissue between its laminæ, were great quantities of tubercular matter, and its ganglia were, some of them, entirely converted into the same, while others were melanotic. In the hepatico-gastric, and the gastrico-splenic omenta, were numerous ganglia, converted into tubercle—and in contact with the head of the pancreas, which, indeed, it at first seemed to be, was a mass of tubercular matter, deposited in the loose cellular tissue of this region, of an irregular cylindrical shape, about an inch in diameter and two inches in length. The great omentum was drawn up into an irregular lobulated mass, nearly

an inch in thickness, and lying over the arch of the colon, in contact with the larger curvature of the stomach. It was almost a solid mass of tubercle. The peritoneum, as it covers the parietes of the abdomen—the fundus of the bladder—the uterus and ovaria, were thickly studded with this same matter, varying in size, from mere points up to that of a buck shot.

Liver.—This organ was paler than natural, and its whole surface covered as the stomach and bowels; the convex surface being adherent throughout to the diaphragm. There were some, but not many, small masses in its substance.

Spleen—united by false membrane, throughout its whole surface to the contiguous viscera; and so firmly to the diaphragm as to require a delicate dissection with the knife to detach it. When separated, its surface was found studded with small masses of tubercular matter; and when cut into, there was a considerable number of masses found in its substance, generally about the size of buck-shot. Besides these, it presented the appearance of a dark, unorganized mass, similar to a clot of very black blood.

Uterus—natural size of the unimpregnated state; interior surface of a bluish lead color, with two or three very small hydatids adhering to it.

Ovaria—natural size and appearance, save that each one contained a body about the size of a buck-shot, having very much the appearance of putty, but much harder.

It will be seen that we were correct in our diagnosis, as to the non-existence of utero-gestation, and the effusion into the cavity of the peritoneum: and, also, that it was consequent upon a chronic inflammation. But in that this inflammation was altogether attributable to *cold*, we were mistaken. Cold may, and probably did, co-operate in the production of the

inflammation, with its consequences of effusion and false membrane, but that the immense deposites of tubercular matter, was the principal cause, we have no hesitation in believing. We did not suspect the existence of these deposites as they were found in the abdomen; for we knew of no sign by which they could be detected—especially when obscured by the existence of a considerable serous effusion.

Gross, in his recent work on Pathological Anatomy, under the head of tubercles of the peritoneum, says—"No particular symptoms are occasioned by the presence of these bodies; in the generality of cases they occur in scrofulous subjects, in connection with tubercles of the lungs, spleen, liver, or other organs."

The specimen was presented to the pathological cabinet of the Louisville Medical Institute, where it may be seen.

March, 1840.

ART. VIII.—*A case of Extra-Uterine Pregnancy, with an account of the appearances on dissection.* By Dr. SAMUEL SEXTON, of San Augustine, Texas.

On the 9th of June, 1838, I purchased a negro woman said to be twenty-four years old, and warranted sound. Her appearance indicated health until about three months previous to her death on the 19th of August, 1839—when, on examination, a tumor was found in the abdomen, near the umbilicus, as large as the gravid uterus in the seventh month. She continued able to perform her usual labors until within two

weeks of her death, except for a few days about her menstrual periods. These, she stated, had been regular since the weaning of her last child, six or seven years before, soon after which she discovered the tumor. Her last child was still-born—she was married early, and had children in quick succession. She was seized a fortnight before she died, with violent pains in the abdomen, attended with high fever. An examination externally, and per vaginam, did not enable me, or my friend, Dr. Griffith, to determine the character of the tumor. Warm embrocations were applied to it with apparent advantage, aud two days before she died she was walking about apparently comfortable and convalescent. The next day she grew worse, and in twenty-four hours died, the tumor in that time having greatly increased in size.

Autopsy.—On opening the abdomen we found a sac large enough to contain a fœtus of six pounds weight, lying anterior to the abdominal viscera. On opening it, we found it to contain a substance answering to the description of the *gras des cadavres*, or *adipocire*, hair, blood, and a piece of bone, probably a portion of the base of the skull, in a perfect state. To the main sac, and communicating with it from the left, was attached a smaller one, which contained the same matter. Other smaller sacs, filled with the same substances, we found, the whole number being five—presenting what appeared to be five extra-uterine fœtations.

The uterus was found in its natural situation, of its usual size, but of unnatural consistence, approaching to cartilage. A part of the round ligaments was in its proper place—traces of the broad ligaments and fallopian tubes were discovered, but forced out of their natural position by the enlargement of one of the ovaria, which seemed to form the larger sac. No traces of the ovaria were found.

The viscera of the abdomen were in a normal state. The five sacs, the uterus and appendages were preserved and may be seen as described.

September, 1839.

ART IX.—*On the Causes and Treatment of Convulsive Affections of Children.* By ALFRED MILLIKIN, M. D., of Courtland, Alabama.

THE remote causes productive of convulsive phenomena in children, are of a multiplex character. They may proceed from cold, producing local inflammation of some organ or tissue, the brain becoming affected secondarily; in which case there is a preternatural afflux of blood to that organ; its vessels being in a debilitated condition, do not contract and circulate freely the blood they receive, plethora, irritation and inflammation being the direct consequence, which is succeeded by a train of diseased action naturally growing out of this morbid condition of the parts, of which coma, convulsions, &c. are among the most common. In children, one form or the other is almost an invariable sequence to this condition of the brain. In other cases, the brain is the first organ to complain, being, perhaps, relatively, the weaker organ. This cause, productive of so much disease and death, does not exercise its deleterious influence upon individuals of any particular districts of country; but its action on man, in the different stages of life, is greatly diversified. In the adult, it is more likely to produce inflammation of the serous and mucous membranes, lining the close and open cavities, and not

less frequently the capsular ligaments of the joints, the tendons, the muscular substance, &c. In children, the brain seems to be the organ upon which its morbid influence is mainly expended, either directly or indirectly. Whether this be attributable to the size of the organ, relatively large, at that period of life, or to its greater excitability, it is not easy to determine, but the fact is one well known to the profession.

Repelled cutaneous eruptions are also sources of this alarming disease—as of discharge from different parts of the scalp, or the sudden disappearance from the skin of any of the exanthemata.

Intestinal worms are also said to be a prolific cause of convulsions; but this I believe is one of the chimeras in medicine. I have treated a number of cases, in which all the symptoms of worms were present, in some of which convulsions occurred, and in others they did not.

The largest number of worms I have ever known discharged from one individual, was three hundred. In this case there were no convulsions. The child was two years old; could not walk; his head enormously large, as also his thorax and abdomen, the latter tumid and pendulous; his respiration embarrassed; superior and inferior extremities in a state of marasmus.

It is evident, if worms produce convulsions by disturbing the nervous system, that the effect should have been produced in this case. In every case of convulsions I have ever seen or treated, in which worms could have been said to have acted as a remote or exciting cause, there was a strong sanguineous determination to the brain, which determination is adequate to the production of the effect, proceed from what cause it may.

Extraneous irritating substances in the stomach are often the cause of convulsions in children. I was called to a little boy during the fall of 1839, who was violently convulsed. On inquiry I found that he had been in good health up to the time of his attack. The conclusion was at once clear, that the symptoms proceeded from some irritating material in the stomach. There was violent arterial action, flushed face, and some dilatation of the pupil. I at once gave an emetic of ipecacuanha, which operated in a short time, throwing up an immense number of *percussion caps*, which were dark, and corroded by the action of the gastric juice upon them. The patient was heaving to vomit when I first saw him. So soon as the ipecacuanha had operated, I administered a full dose of oil, which purged him freely, and in twenty-four hours he was as well as ever.

In the same season I was called in great haste to see a lad four years old. On reaching the place, I found him in the most frantic, wild, convulsed condition I have ever witnessed, before or since. On examination, as in the preceding case, I found that he had been in perfect health, to all appearance, up to the period of his attack. My conviction, as in the preceding case, was that the symptoms proceeded from poison in the stomach or other offending matter. The symptoms were of a most violent character; pulse rapid, skin hot, face flushed, pupil very much dilated, wild delirium, and every voluntary muscle of the system convulsed. I immediately administered an emetic, which was with difficulty poured down him. It operated in a short time, and the ejections being retained, were found, on examination, to contain a number of the seed of the datura stamonium. After the operation of the emetic, the symptoms assumed a milder form. The emetic was repeated, with copious diluent drinks,

and when it had operated effectually, I gave a full dose of oil, which operated well. Under this treatment the convulsions subsided. From the time I saw him first, until he was relieved, was eight or ten hours, and such was the violence of the determination to the brain and eyes, that the latter organs took on inflammatory action, requiring venesection, topical and general blisters to the temples, and all the remedies usual in the treatment of conjunctivitis.

Irritation from dentition, is also said to be a cause of spasmodic affections in children. But this is a point upon which there is some diversity of opinion among physicians. That an irritable condition of the jaws often occurs during the process of dentition is well understood, but it is rather a consequence of disorder in other parts than a cause of convulsions. The probability of this opinion is favored by the fact that disease from teething is manly confined to the summer and fall months, during which seasons children, in common with all other persons, are constantly exposed to causes calculated to derange the general health of individuals and communities. The process of teething is not confined to any particular season; it appears in all seasons, and numbers of children pass through the different stages of it without suffering inconvenience. It is therefore not a cause of convulsions, but may proceed from the same internal pathological condition which is the proximate cause of them. I have attended cases of convulsions occurring in the summer and fall seasons of the year, in which there was redness and swelling of the gums, which was said by all who saw them, to be the cause of the disease. If this had been true, my practice was certainly empirical; nevertheless, I afforded relief by the use of those means, the direct effects of which were to curb arterial action, establish secretion, and reduce plethora. In

some instances where the redness and swelling of the gums were considerable, I have used the scarificator with considerable advantage by reducing the topical congestion of the part. I believe, therefore, that malaria is the efficient remote cause of all those cases of convulsions which are attributed to irritation from dentition, aided, in some instances, by the sensible properties of the atmosphere, but principally by humidity of that fluid. Many facts might be cited in support of this opinion—suffice it to say, that convulsions in children are not uncommon occurrences in intermittent fevers, particularly in the cold stage of this disease. I have known them to occur frequently, and in one case I recollect distinctly there was a regular periodical return of convulsions in place of the chill, succeeded by increased action, &c., which was relieved by the same remedies that are necessary in the treatment of intermittents.

The great indications of treatment to be observed, are, to obviate as far as possible the influence of the remote causes; to determine action from the brain to other parts of the system; to establish secretory action in every organ. To protect the brain from too powerful a determination of blood to, and congestion of its vessels, is one of the most important indications to be fulfilled in the treatment of convulsions. This indication is most promptly fulfilled, as my experience and observation induce me to believe, by the use of the tepid salt-water bath, at the same time pouring cold water on the head. The judgment of the physician is to determine the length of time necessary to keep the patient in the bath, and the number of times it should be repeated. Most generally, however, I have found five minutes to answer the purpose of quieting the symptoms, and have found it necessary to repeat the remedy three or four times during the night or day, as the case

may be—sometimes using the cold application without the bath.

It is proper to remark, that frictions increase the value of the remedy, and these should be performed while the patient is in the bath; but it should always be preceded by venesection, if the pulse be full, tense, or quick. The preceding remedies are not particularly designed to establish secretions, nor are they calculated especially to act on the secretory system; yet they do in some instances promote it to a greater or less extent. But they invariably reduce the system to the state, which is the most favorable to the action of the remedies which induce secretion. I have been in the habit of giving a powder composed of one grain of calomel and one of ipecacuanha, either in pill or powder, and repeated every hour until an ordinary dose has been given. I allow the patient to rest quietly three or four hours, when, if the medicine has not operated, I aid it by injections, warm poultices to the abdomen, or an ordinary dose of oil or salts. The first class of auxiliaries I prefer, if they will answer the purpose. If the disease is conceived to proceed from cold, advantage may be derived from the proper use of diaphoretics, of which I have found the pulvis Doveri to fulfil the indications as promptly and effectually as any I have ever used. In prescribing this remedy for the cure of this disease, which is strictly inflammatory, I have found it necessary, in order to insure its diaphoretic effect, to combine with it double the quantity of ipecacuanha, and to administer it in such doses and so frequently, as to induce nausea.

The above is an imperfect outline of the treatment necessary in convulsions in children, when they proceed from cold, or malaria, and are not complicated with other diseases.

If worms be present, anthelmentics are indicated, while

the convulsions are to be controlled by venesection and the warm bath.

If, after the convulsions are relieved, and the worms discharged, the patient fall into a state of languor tending to coma—the skin being cold and inactive, and the pulse weak and frequent, further treatment is called for. In such cases, I have found an ordinary dose of calomel to answer an excellent purpose. But if there be general debility and relaxation of the chylopoetic viscera, with a tendency to serous discharges, if they be not already present, more advantage is to be derived from minute doses of that article frequently repeated. I have used it much in both modes, and, when given in the latter, I have never known it fail to establish biliary secretion. Care, of course, is to be taken to prevent ptyalism where the remedy is continued for any length of time, and the only safety consists in seeing that it operates well.

My views of the nature and treatment of this interesting form of disease are submitted to the profession, not in the hope that they contain any thing new, but to contribute what I may to the establishment of a rational and sound practice.

May 27th, 1840.

ART. X.—*Partial Deafness and Blindness, occurring in a case of Pneumonitis.* By Dr. T. J. COGLEY, of Mount Vernon, Ohio.

ON the 15th February, I was called to see Mrs. W——, æt. twenty-eight years. I found her laboring under symptoms of pleuritis in the left side, which had been existing for twenty-

four hours before I saw her. She was bled to incipient syncope with great relief; but in a short time reaction taking place, she was bled again to the same extent, which produced a decided reduction of the pain. She was then put upon tart. emet. in such doses as should nauseate considerably without producing emesis; but at first the medicine acted freely on the bowels. The use of it was continued with mucilaginous drinks, a cup of gruel occasionally, and, when required, a cathartic, for two or three days, without any decided amendment, except a partial reduction of the acute pain in the side, the difficulty of breathing, &c. About this time I examined the state of her lungs by percussion and auscultation. Finding the crepitant ronchus very distinct, I believed the inflammation to be now existing in the lungs as well as the pleura. The sputa had assumed the characteristic toughness of the first stage of pneumonia, the cough also had become much more troublesome, and the pain more obtuse and deeper seated. The pulse not seeming to admit of further bleeding, I cupped the thorax in the region in which the pain was felt, which somewhat moderated the pain, but it still existed so as to be troublesome. The pulse gradually became weaker, until it was nearly extinct; and now (about the sixth day) the patient began to complain of hardness of hearing and dimness of vision. The antimony was continued regularly, and the bowels moved by calomel, followed by salts or oil when required. After cupping the chest, a large epispastic was applied over the seat of the pain. The deafness, as well as derangement of vision, increased to an extent which very much alarmed her friends. It was now with the utmost difficulty that the patient could be made to hear the questions which were asked in relation to her feelings; at the same time she could not distinguish between individuals. From the time these symp-

toms commenced, the patient became slightly comatose. Auscultation, percussion and the sputa, indicated that the inflammation was extending in the left lung. I think the right lung remained free from organic disease during the whole course of the affection. The left lung was now evidently hepatized to a considerable extent. The percussion being perfectly flat, and the respiratory murmur in at least all the lower half of the lung, completely extinguished. It was not a fluid in the cavity of the pleura that produced the dullness on percussion, for its boundaries were the same in the erect and recumbent posture. The pain was not very troublesome now, but still existed. The patient was drowsy at all times, but did not sleep, and could scarcely be got to hear at all, and could not distinguish any object, though she could discern the light. She could not bear a candle to be brought into the room.

I persevered in the exhibition of ant. tart., in conjunction with calomel and Dover's powder; kept up counter-irritation by repeatedly blistering over the seat of the pain; gave a solution of cream of tartar in mucilage as a drink, and for the purpose of increasing the secretion of urine. As soon as the gums became slightly swollen, the secretion of urine was greatly increased, the hardness of hearing and derangement of vision began to subside, and by the fourteenth day of the disease the patient could hear tolerably well; and by the eighteenth or twentieth, both hearing and seeing were perfectly restored. Convalescence was extremely tardy, as it was also in two other cases of the same description that came under my notice. A slight dulness on percussion still exists, but is gradually subsiding.

If the above is deemed worthy of notice, I would be much pleased to see the opinions of able men on the subject. Do

such cases frequently occur, and is it pathognomic of any particular pathological condition of the lungs? are questions I should like to hear answered. I have never read any thing explanatory of such symptoms, nor have I heard any practitioner speak of such cases.

March, 1840.

ART. XI.—*Observations on the use of large doses of the Acetate of Lead in some of the diseases of Alabama and Georgia.* In a letter to Dr. Drake, from A. KIMBAL, M. D., of Macon County, Alabama.

ELEVEN years have just elapsed, since I left your lecture room, and notwithstanding the ability with which you discussed the pathology, and treatment of diseases; it has been my misfortune in many cases to witness the inefficiency of many of the modes of practice pursued in diseases of this region of country—Georgia and Alabama.

Our climate is more unsteady, and the changes of temperature more frequent than in yours, (Ohio.) I have also remarked that rainy summers, are decidedly the most sickly, and the fevers more violent and unyielding. The ordinary intermittents, are not generally very difficult to arrest. A few active mercurial cathartics, or as many emetics followed by large doses of sulphate of quinine, commencing a few hours before the expected paroxysm, and at given intervals of thirty to sixty minutes, are, in most cases, sufficient. But when they assume a remitting, or continued form, with a white or yellowish fur on the tongue, loss of appetite, great thirst, headach, and general heat of body, with restlessness,

&c., the treatment must be different. Such cases generally continue from nine to fifteen days. The most difficult and unyielding form, is that which has a typhoid termination. From the seventh to the tenth day, they seem to promise a fair and happy issue; when we witness a spontaneous removal of the scurf from the tongue, the surface of which becomes red, and then dries and cracks, and the thirst increasing, and red or livid spots appearing on the tongue, with obtuseness of sensation, coma and mild delirium. Such cases had so frequently gone on to a fatal termination, in defiance of every plan of treatment laid down in the books, that I was induced in 1830, to try active bloodletting, thereby reducing as much as practicable the febrile excitement, and gaining as much remission as possible, for the free administration of calomel and quinine. The success of that plan, although more satisfactory, was not as great as was desirable; and while deeply reflecting on the inadequacy of the usual treatment in our southern fevers, I was interested with some of the items in the new French doctrine, which I believed pathologically correct, yet practically wrong. This together with Currie's reports, and his professed success in the external application of cold water to the cure of fever, induced me to suppose with others, that the mucous tissue or nervous coat of the *primæ viæ* was the seat or radiant point of fever. In connexion with this I reflected on the influence of certain cooling and sedative remedies in external injuries, such as fractures, sprains, &c., where great fever, and irritability were developed. In such cases no local application has been of greater efficacy than the solution of acetate of lead. When externally applied, if its effects be to ease pain, by reducing inflammation and quieting the irritability of the parts, then if internally used, so that its application, to the inflamed tissue should be

general, would it not be a happy and salutary adjuvant in the treatment of fevers? Acting upon this suggestion, I determined to give it a fair trial. Governed by the generally received opinion of the dangerous consequences of long retention of the article in the stomach and bowels; I was induced to unite with it such purgatives as would insure its speedy transition through the alimentary canal.

In August, 1835, I was with such a case as I have described. The patient was a female, on whom I had exhausted every professional means in my power; her tongue was parched, encrusted and cracked; her thirst insatiable, &c., &c. I prepared eight powders, each containing eight grains of acetate of lead, three grains of calomel, and one-fourth of a grain of tartar emetic, and directed that the patient should take one every two hours; but should any number purge four or five times, to discontinue them. I promised to see her the ensuing day, but had no expectation of finding her alive. I was, however, agreeably surprised, to find her cool and quiet, her thirst allayed, and her tongue moist. She had taken all the powders, containing sixty-four grains of the acetate, in sixteen hours; they had operated eight times, and her thirst moderated from the exhibition of the first powder. The termination of this case was so highly satisfactory, that I prosecuted it in other cases, and that too with a success which I had not before witnessed. I suggested it to Dr. Crawford of Georgia, whose experience and professional reputation entitled his opinion to the most respectful consideration. But his over caution about lead cholic, detered him from a trial. Professor Chapman places it with the precarious articles in intermittents, but informs us that it has been successfully used in *hectic and yellow fever*, by Dr. Irving of Charlestown. He however does not tell us his mode of prescribing it, yet

says, that two grains with one fourth of a grain of opium, in pills, is applicable to most cases. I have not found it so, I have not used above ten grains every two hours. But my own opinion is, and should I take the opinion of the distinguished professor for authority, I should conclude, that large doses possess a purgative effect—I have derived more benefit from eight grains, than I have ever been able to procure from six, and farther, I never use the opium in fevers, (for very obvious reasions) unless in very irritable states of the stomach and then I prefer to increase the calomel, exclude the tartar emetic, and control tne gastric excitability by sinapisms or blisters. I always add or exclude the antimony, according to the state of the bowels; I most generally trust to active purging, bleeding &c., in the inflammatory stage of the fever. If they do not succeed, I prescribe calomel, sixteen to twenty-four grains, acetate of lead, forty grains, and tartar emetic, two grains, mixed and made into powder. Of these, I direct one every two hours if the bowels are easily moved, if not, every hour or hour and a half—if they do not produce too much nausea. If they are not sufficiently operient, I follow them with oil or emenreta, or both. It is most desirable that purging should succeed the fourth or fifth, and the calomel and antimony when properly proportioned and timed, will effect that object. A fever of the same type prevails among children, in the limestone (rosten) districts of Alabama, with great fatality, often manifesting all the symptoms, usually attending the existence of worms, which symptoms arise, as Dr. Dewes, very correctly supposes, from the corroding influence of *acrid bile* on the mucus tissue of the bowels; for I confess I never have been able to expel worms under such circumstances, in sufficient numbers, to infer reasonably, their influence in producing the fever. To children I generally

give two to three grains of the acetite, two grains calomel, one-eighth tartar emetic, every two hours.

Diarrhœa and dysenterics are frequent and dangerous among children, and I have not derived greater advantages from any course than the forgoing, by excluding the antimony and substituting morphium, Dover's powder, or opium every two or three hours. The same treatment I have found appliable to adults, I have tried the same medicine in a few cases of cholera morbus, with equal success, the most inveterate case which I recollected to have seen, occurred in a chief of the Creek Indians, after those around him had expendid their efforts, as well medicinal as superstitions—I prevailed on the wife who spoke English, to try the "white mans" medicine. The patient was in the last extremity, but the case very soon assumed a favorable aspect, and recovered, followed, under the use of the acetite and Dover's powder. I have had father trials, in which its efficacy is fully established. I think it best, always to have the bowels re-opened in sixteen or twenty hours after the sessation of the discharges.

In bilious plurisies, and pnumonia typhodes, I have had ample experience, sufficient to establish its efficacy. I do not entertain the belief that the acetate possesses any expectorant property, or any direct action on the liver, but it has the power, in combination with other articles, of diminishing the heat and contracting the irritability of the bowels and stomach, whereby it reduces excitement, and regulates the morbid secretions, as well petorial as abdominal.

Of its efficacy in small-pox, I can speak but imperfectly, having seen but one case, which occurred in my practice in 1836, on the Tallapoosa river, in which its beneficial influence was happily displayed.

No where have I seen its powers more decidedly manifest-

ed, than in combating the dangerous disorders, arising from the indiscriminate use of "No. 6," "lobelia," &c., &c., by the Thompsonians; who in excess of excitement prescribe active stimulants to force the *vis medicatrix* to expel the *morbid humors.*

In these cases the abdomen is often tumid, the mucous tissue of the stomach and bowels, is in a *scorched*, corroded and shattered state, from the free use of the exciting article called "No. 6," composed of Cayenne pepper, ginger, &c., infused in rectified spirits. In such cases I have found the acetate display its greatest powers.

Modus Operandi.—I cannot suppose that the beneficial effects of the acetate arise from its purgative property. It acts in three efficacious modes. 1st. As an astringent, by placing a proper restrictive influence over the capillaries, and controlling the inordinate alvin secretion. 2d. As a tonic, giving tone and healthy action to the emunctories. 3d. As a refrigerant; while the purgative articles combined with it expel the morbid secretions, and disgorge the glandular apparatus. I can only, sir, add, that three years experience does not enable me to say, that I have ever seen the first symptom of colic, or the least unpleasant consequence follow its application; but on the other hand, I have had every reason to place the most implicit confidence in its powers. I cannot say what effect larger doses of the article would have in the treatment of fever; I will leave that for other and abler hands. This much however I can say, that I have prescribed from five to eight grains as described in this plan, until sufficient purgation is procured, or the whole taken—this plan I have continued for four days in succession, with the desired effect.

ART. XII.—*Clinical Reports to the Fairfield Medical Association, Ohio, embracing a case of Puerperal Convulsions, and a case of Tape Worm apparently causing Herpes.* Communicated for publication by M. Z. KREIDER, M. D., Corresponding Secretary of the Society. November, 1839.

I. *A case of Puerperal Convulsions..* By JOHN M. BIGELOW, M. D.

January 23d, 1834, I was called, early in the morning, to see Mrs. W——, aged seventeen years, of a full and plethoric habit, and reported to have been in the seventh month of her first pregnancy. During the preceding fall she had been troubled with ague in its different forms, and, until within the last three or four weeks, had never enjoyed good health. Within this time she has had a ravenous appetite, and neglected her bowels so much as to become costive at times to a considerable degree. I found that she had passed a sleepless night, in consequence of extreme pain in the head.

She rose about daylight this morning, and attempted to go out but was unable to open the door. One of the family observing this, opened it for her, and, from her appearance and manner, believing that something was wrong with her, watched her. In a few minutes he saw her fall from the porch, which was elevated about two feet from the ground. Calling the rest of the family to his assistance, they ran and picked her up in a *fit*. She continued to have convulsive fits, about every half hour, from this time until I arrived—about eight o'clock A. M. I found her pulse beating with great force, about eighty in the minute, and in the intervals of the fits she complained of intolerable pain in the head, uneasiness and pain in the epigastric region, and almost constant nausea, with frequent vomiting of bilious matter. Not unfrequently

she would be taken with a fit while in the act of vomiting. Her face was flushed and considerably swollen.

The character of the convulsions was as follows: She would be seized, suddenly and without premonition, with violent alternate contractions and relaxations of the muscles of the whole system—both sides equally alike. The muscles of her face, eyes and mouth, were twitched in every direction with the utmost celerity; her tongue, although not strongly thrust forward, was wounded between the teeth; respiration almost entirely suspended towards the termination of the fit; her face livid, sometimes almost black; froth, tinged with blood, issued from her mouth and nostrils; and the "peculiar sibilating noise," which Dr. Dewees says so strongly characterizes epileptic convulsions, was emitted by her. The pulse, as stated before, in the intervals, and at the commencement of the fit, was full and tense; but during the convulsions it became rapid, small and thready, and her hands bedewed with a cold and clammy sweat. The convulsions gradually declined, leaving the patient comatose, with stertorous breathing for some time. After these symptoms had entirely subsided, she had not the least recollection of what had passed.

I immediately abstracted about twenty ounces of blood from the arm, and gave an effervescing draught. All the preceding symptoms continuing with unabated severity, I applied sinapisms to the pit of the stomach and feet, and at ten o'clock A. M. bled her again to about thirty ounces. The sinapisms not appearing to stimulate the skin sufficiently, I applied a blister to the pit of the stomach, and the mashed root of horse radish to the wrists and ancles. At 12 o'clock, M., the symptoms of gastric irritation having abated, I gave twenty grains calomel. She has not had a fit since 10 o'clock A. M.

Two o'clock P. M.—Fits re-commenced with equal violence. Took twenty ounces blood. The fits now occurred more frequently, leaving her hardly time to recover from the effects of one before another attacked her. At eight o'clock P. M. she took thirty grains jalap, and the blister that was taken from the pit of the stomach was applied between the shoulders. The difference in the condition of the patient this evening, from what it was in the morning, consisted in the absence of gastric distress and nausea, and, in the intervals, of the convulsions, in so deep a coma, that it was impossible to arouse her. This state continued until one o'clock A. M.

24th, 8 o'clock A. M.—Has not had a fit since one o'clock last night. Pulse one hundred, and without the hardness and force that characterized it yesterday. Sleeps a great deal, but her breathing is easy, regular, and without stertor. When awake she appears restless and uneasy, attempting to get out of bed, and does not appear to know any of her attendants, and is unable to talk. Passed urine last night involuntarily. The cathartic, taken yesterday, not having operated, an enema was now administered, which brought away a large quantity of very fœtid excretions. From the restlessness of the patient, I suspected that labor had commenced, and made an examination to escertain the fact, but found that the os tincæ was perfectly closed.

25th.—The rhubarb and jalap, taken last evening, operated well this morning. Patient much better.

26th.—Continues better, with the exception that she cannot sleep. She has also a disposition to be continually talking.

27th.—Since last evening the patient has had paroxysms that resembled hysteria. Besides the wakefulness, when she now attempts to go to sleep, she imagines that she sees dogs,

cats, rats, and every kind of vermin, before her. Sometimes they are dancing before her, and again they appear suspended in the air. Her vision appears to be impaired, and every object that she sees is distorted. The strings which hang about the room, and the cracks of the floor and door, appear to be transformed into snakes and worms. The faces of those with whom she was most familiar appear greasy or full of pimples, or in some other way deformed. The house seems turned upside down and in flames, and the chimney falling to pieces. She sometimes screams with all her energy, and begs to know what hideous monster is coming to carry her off, when she only sees her attendants. At times she trembles excessively, even when she feels no apprehensions of danger, or when apparently there is no paroxysm upon her. In the intervals of these *fits* she appears to be cheerful, and even has a disposition to be garrulous. She had not slept for two days and nights, and the moment she closed her eyes, with a disposition to sleep, the paroxysms would be sure to come upon her. I gave forty drops of tinct. opii, and ordered her to take a pill composed of gum asafœt. gr. 1, and gum opii gr. ss, at bed time, and on the following morning to take a tea spoonful of equal parts of tinct. valerian and tinct. asafœt. every four hours, if the fits should continue.

28th.—Slept well last night, and but a slight disposition to the hysterical fits. Much better.

30th.—Taken with labor this morning, and delivered of a fœtus that, to appearance, had been dead about a week.

REMARKS.

There are several points of consideration in this case which render it interesting. Was it a case of "epileptic puerperal

convulsions?" or was it "hysterical puerperal convulsions?" From the first, I was led to believe that the brain was in the most imminent danger, and, directing my treatment accordingly, in the course of six hours took upwards of seventy ounces of blood. Had I vaccillated at this time in my treatment, suspecting, as I did, that it *might* be hysteria, and suspended the abstraction of blood, after the loss of sixteen to thirty ounces, as laid down in our best books on this subject, I feel confident that my patient's life would have been forfeited. The supervention of hysteria, at the end of the fourth day, renders the diagnosis of the case doubtful. Although fully aware of the manifold characters assumed by hysteria, yet I do not recollect ever having seen or heard of a case like the one now before us. Indeed, the similarity of the symptoms to those induced by the excessive use of ardent spirits—*mania a potu*—was so highly marked as to excite our observation and astonishment. In her convalescence, which was rapid, she had a preternatural desire for food and drinks of the most highly stimulating character. On the class of disorders commonly denominated *nervous*, there is the greatest variety of opinions, both in regard to their pathology and therapeutics. Indeed, from the investigations of Teale, Macculloch, Mitchell, Tate and others, almost a total revolution of opinion has taken place in regard to these affections, and diseases that once were supposed to be of the most inflammatory character, now, according to their nomenclature, should be classed among the nervous. Prescribing for the name of a disease, we know, has too frequently been the order of the day; and were it not that my course of treatment, in the above case, was pronounced too depletory by veterans in the practice, who have had opportunities of observing ten cases of the kind to my one, I should not have been excited to so

much wonder. When, in my defence, I quoted the authority of Dr. Dewees, who, in one case, used these means to a much greater extent, I was reminded that it was not the same disease, or, rather, that it was not under the same circumstances. What Mitchell and Macculloch would have thought of my practice, I am unable to determine; but it is worthy of remark, that the convulsions ceased soon after the blister, which was applied over the superior dorsal vertebræ, began to draw; although there was no tenderness on pressure in any part of the spinal column. Whether the blister had any effect in arresting the convulsions—whether it was the sole cause, or whether it acted in conjunction with the venesection, I am unable to say. I am inclined, however, to believe that it was an important auxiliary to the bleeding. It will be recollected that at 10 o'clock A. M. she lost thirty ounces of blood, which appeared to suspend the convulsions for four hours, but, upon their repetition at 2 P. M., the bleeding had no effect, until the blister began to draw.

II. *A case of Tænia Solium, apparently causing Herpes.* By J. M. Bigelow, M. D.

Mrs. D——, aged about thirty years, of a complexion so light as almost to be denominated an albino, consulted me in August, 1837, for an obstinate herpetic eruption on the hands and fore-arms. She stated to me, that, about five years before, in the winter, the herpetic complaint first made its appearance at the roots of the nails of each hand. It left her in the spring, and did not re-appear until the succeeding winter, when it was more severe and spread higher up than in the preceding winter. It thus continued to augment in severity, duration and size, until the summer of 1837, when it did

not leave her, but spread above the elbows. The nails of the fingers on each hand had been removed several times by it. The thumb nails, however, had not been touched. The interval of the disease in the summer of 1836, had been very short, and, as before stated, it had continued uninterrupted, although mitigated in severity, through the summer of 1837. She had unsuccessfully tried the prescriptions of several physicians; indeed, the application of external medicaments invariably had the effect to aggravate the disease. When I first saw the patient in August, I prescribed the hydro-sulphuret of antimony, in union with the white oxyde of arsenic, to be taken internally in small and alterative doses, and the use of the chlorate of soda, as an alternate lotion. This plan was perseveringly pursued for a considerable length of time, without any apparently beneficial effects whatever. The 20th of September the disease broke out with as much severity as in any preceding year. At this time she stated to me that she had symptoms of tape worm since February last. The only symptoms were their occasional appearance in the evacuations of the bowels. I now prescribed the polypodium filix mas, followed by a brisk cathartic of calomel and gamboge, upon the principle of Madame Nouffleur. A short persistence in this course brought away, in the language of my patient, "immense quantities" of *tænia solium*, from single joints to detached portions of the length of five or six feet. At the time I prescribed the anthelmentic course, I recommended my patient to abstain from all applications to the herpetic eruption. She only made use of sweet cream to soothe the smarting and irritation of the sore. The herpetic disease began to amend immediately, and in less than a month was healed entirely.

November 11th.—She still had symptoms of worms, but no herpetic eruption—prescribed cathartic pills and oil of worm seed.

31st December.—*Tænia* still continue to be occasionally evacuated, and the eruption had returned, but in a much slighter degree than for several winters past. Prescribed the plan adopted by Madame Nouffleur again, to be followed by the use of carbonate of iron, in moderate doses, for some time. My patient living a considerable distance from town, I have not since heard from her.

☞ The principal facts of the above case were communicated to Dr. S. E. Evans, of Transylvania University, and embodied into his Inaugural Thesis.

Art. XIII.—*Alleged causes of Milk-Sickness.* By C. W. Short, M. D.

A very intelligent farmer of Fayette county, Ky., who was frequently called to visit the country about Chillicothe, Ohio, where he owned a large tract of land, brought with him on one occasion the dried leaves of a plant, which he said was regarded in that quarter as the cause of that dreaded affection, the *milk-sickness.* On examination, these were ascertained to be the leaves of the *Caltha palustris*, a plant common throughout the middle and northern States, where it most frequently occurs in flat, wet lands, and hence is called "Marsh Marygold." In such situations, the yellow flowers of this plant appear early in the spring, before the leaves are fully developed; it then ripens its seeds and disappears by

mid-summer. This plant belongs to the extensive tribe of *Ranunculæ*, the most of which are pungent and acrid; some are possessed of irritating, and others of narcotic, properties. In reference, therefore, to its botanical alliances, we are not inclined to deny that this vegetable might communicate deleterious properties to the flesh and milk of animals feeding upon it.

Another vegetable production, which is also frequently met with throughout the Western States, in poor hilly districts, has been suspected by some of the inhabitants of the "Eagle creek" and "Dry ridge" settlements in Kentucky, to be the cause of the same affection. This plant is the *Symphorea glomerata*, of botanists; and is a low shrub, found growing in dense patches, bearing small inconspicuous flowers, and a profusion of purple berries. It is of the family of *Caprifoliaceæ*—the honeysuckle tribe, none of which are poisonous or active.

May, 1840.

REVIEWS.

Art. XIII.—*Lectures on the Theory and Practice of Physic.* By the late David Hosack, M. D., L. L. D., &c., Philadelphia, 1838.

(*Concluded from the January number.*)

We promised to the readers of the Louisville Journal, another notice of this production. And we are sorry we did so; because we have nothing in relation to it very palatable to offer them—nothing, we mean, of that commendation, which we would feel both proud and pleased to bestow, on an American publication in medicine, whose author had been a practitioner of his profession near half a century, and a public teacher of it a large portion of that time. And our regret on the subject is heightened not a little by the fact (which we deem a singular one) that the work has received a warm and studied eulogy, from the pen of another physician, who justly ranks, as a teacher and practitioner, among the most distinguished our country has produced. But no matter for all this. Our promise is out, and must be redeemed. And, as far as our time and resources may avail, it shall be redeemed faithfully.

The more we look into the "Lectures," the less are we satisfied with them; because in neither matter, manner, nor thought, do we find in them scarce a tittle in harmony with the more substantial and accurate medical science and literature of the day. Wherever we open the book, and on whatever page we fix our eyes, we find it covered and crammed, to a most offensive degree of bloatedness, by a pompous citation of authorities, and a vain-glorious display of quotations, as if the writer had been framed to walk only on *stilts*, or on the shoulders of other men. And the evil is greatly increased by the condemnable fact, that almost all the quotations, *certainly* a large majority of them, are in the Latin tongue, and were not, we venture to say, understood by one in twenty—most probably not by one in fifty, of those for whose edification they were intended. As respects the communication of instruction to them (the true and only end of didactic lectures) the learned Professor might as well have addressed most of his class in the language of Zoroaster, as in that of Cicero.

A leading object, and as we conceive a very important one, which we have in view, in our notice of the work before us, being to show, that it is a vitiated, and erroneous, and therefore a dangerous and discreditable standard for medical literature, science, and practice, at the present period, when fact and sound reason are fast ascending the high places that were formerly held by theories and notions—and farther, to show, that the true standard of *western medicine* can be erected only by *western physicians*—such being the case, and it being true, that any one portion of the work furnished us with matter nearly as well suited to our purpose as any other, we have taken but not selected, as the subject of a few remarks, "Lecture XIV," headed:

"Causes of Fever—Miasma and Contagion."

Now so trite and common-place have these topics been rendered, by the extensive and multiplied discussions they have undergone, that it would seem easy for a public teacher, when addressing his class, to concentrate on them, in a few sentences or paragraphs at the farthest, all the positive knowledge of them he possesses, and to derive ample illustrations of his opinions respecting them, from annual occurrences in our own country, and from a few of the able and accurate writers of modern times. Such however do not appear to have been the views of our learned author. To appear under the plain and sober sun-light of truth, common-sense, and practical medicine, did not suit the gorgeousness of his taste. He could content himself with nothing less than a career among the dusky and conflicting clouds of professional authorities, learning, and majesty.

Accordingly he begins with certain views on the insalubriousness of swamps and stagnant waters, entertained when medicine was young by "Hippocrates, Galen, Varro, Columella, Palladius, Vitruvius, Diodorus Siculus, Dionysius Hallicarnassensis, Strabo, and others," (but what others he does not tell us, and know, nor care,) and then quotes from Sydenham a long passage in Latin to show that he knew nothing at all of the matter.

Having thus done due homage to ten or twelve ancients, most of whom, were they now alive, and possessed of no more knowledge than belonged to them when they wrote their books, would be *medical novices;* and having fastened on the great British Hippocrates the charge of being utterly ignorant of a subject, of which he himself was so thoroughly informed—having achieved these literary and scientific feats

of knight errantry—he next pays a visit to Lancisci the Italian, nobody very well knows why, unless it be for the sake of telling the story, told five hundred times before, about "thirty ladies and gentlemen of Rome," of whom twenty-nine contracted a malarious fever, in consequence of a water-excursion on the Tiber. His interview with Lancisci, he closes by informing him that his able work on marsh miasma, had been accurately translated by no less a personage than Lieutenant Governor Colden, of New York, a fact known before to every reader of American medical literature.

But our author's chase after "miasma and contagion" is not yet ended. Far from it. We accordingly find him next in Asia, counting the cadavers of the Turks, who died in Bussorah, of "miasma," or "contagion" (he does not tell us which) in consequence of the stagnant water thrown around the city, by the superflux of the Euphrates. And he discovers that not less than twelve or fourteen thousand of the faithful had fallen victims to putridity in their blood vessels, in consequence of malaria having gained admission to their blood. Having closed these pious labors in the character of "*Old Mortality*" on the Euphrates, he accompanies Bruce into Africa, to do the same kind offices to those, who, had died of putrefaction, under the septic influence of the miasms of the Nile. Having finished his work in the land of the Ptolemies, he vaults, at a single rebound, over the Mediterranean and the Atlantic, and lights unharmed in Duchess county, in the State of New York. And what does he find there, to edify his class first, and the world afterwards? He finds *four personal friends*, two of whom were *wine* and the other two *water-bibbers*. And, while the latter suffered from misasmatic affections, in the autumn, the former escaped. From

this is drawn the sweeping conclusion, that *wine is a preventive of autumnal fever!* and water the reverse! a terrible rebuke to our *tetotal* temperance-mongers!

That this may be true in some instances, nobody disputes. But is it *generally* true? Though we shall not answer decidedly in *the negative;* a *positive* answer is still less to our taste. This is one out of many cases, that present themselves to medical writers, and perhaps more especially to medical teachers, in which no decided opinion should be given—in which indeed no such opinion can be given, without doing mischief. To be serious.

Was Professor Hosack certain that the only difference in the habits and modes of life of his Duchess friends, was that of mere wine and water drinking? Did there exist no difference in their diet, as regarded quantity or quality, mode of preparing it or the time of eating it? and were the individuals exactly alike in their habits of clothing and exercise, and in the kinds and degrees of their exposure, as well to the remote, as to the exciting causes of autumnal fever? Were they again of the same age, the same temperament, and the same general character of constitution? Were they acclimated alike to the condition of the atmosphere of Duchess county? Or were some of them older residents of the place than the others? These and several other points should have been gravely considered by Professor Hosack, and due weight allowed them, in maturing his judgment, as to the reason why his wine-drinking friends escaped malarious fever, while the water-drinkers suffered from it. But his work, from beginning to end, shows him to have been much more of a stern uncompromising dogmatiser, than of a calm, substantial, and profound reasoner. Of the latter characteristics he possessed but very little; of the former, by far too much for a standard

teacher or writer in medicine. Where he applied once for a decision to the authority of nature and reason, he applied scores of times to the authority of the opinions of men. Hence, as respected himself, his own notion, no matter by what process it was formed, or from what source derived, constituted his only high-court of error; from whose decision he willingly admitted of no appeal. There was, in relation to these matters, a singular anomaly, we might call it *contradictoriness*, in his character. While he referred to the authority of all great men, whose opinions he could learn, he rarely concurred in them, and received with no toleration the slightest difference from his own opinion.

But we are not yet done with our author's almost boundless peregrination, in pursuit of those two arch-enemies of human health and happiness, "miasma and cantagion." Accordingly we are again to accompany him to the banks of the Tagus, where he joins issue with the "remittents" of Portugal, and then to the shores of the Ganges and the Boorampooter, where we find him in close and determined grapple with the "jungle-fever." His next plunge (and it is a bold one) is into the low-lands of North Carolina, where he learns from Dr. Hugh Williamson, who was better informed in almost every other branch of knowledge, than in that of medicine, that even the "most simple *species* of intermittent is in some measure the effect of a *putrefactive* taint introduced into the system." We were not apprized, until we had read this clause by our author, that "intermittents" were held to be divisible into *different* "species." We had been taught to believe that all the forms of intermitting fever belong to the *same* "*species*." Such looseness of language in a public teacher, whether of medicine or of any thing else, is quite unfavorable. It is indicative moreover of a *looseness of*

thought. An accurate thinker is equally accurate in his choice of words. And an accurate teacher will make accurate pupils—and the contrary.

The Professor now takes a most devious and anachronous ramble, touching at different parts, and seemingly in different periods, of the world, to collect the opinions of the following individuals on the subjects of miasma and febrile contagion, referring to the names in the same order in which we proceed to record them.

"Sir J. Pringle, Dr. Brocklesby, Dr. Donald Monro, Dr. Wilson, Baglivi, Dr. Rollo, Dr. Melville, Dr. Moseley, Dr. Lind, Livy the historian, Dr. Francis, Dr. Davis, Dr. Willan, Dr. Gregory, Dr. Bateman, Dr. Beddoes, Dr. Price, Dr. Priestley, Murat, Simond, Dr. Cleghorn, Dr. Jackson, Mr. Bartlett, Dr. Thompson, Raymond, Badenock, Bontius, Lysons, Clarke, Mr. Stevens, Dr. Hamilton, Dr. Bayley, Dr. Rush, and Dr. Chisholm—and perhaps others whose names I may have overlooked.

Such is the ponderous and disjointed cluster of authorities, references to which the Professor unmercifully inflicted on his class, in the course of a single brief lecture, merely for the establishment of a few points in pathological science, most of which no one doubts, and of which no tolerably educated physician is ignorant. Some of these points, to which birth is given after such mountain-labor, are as follows:

In our own and other similar climates, miasma exists in greatest abundance in the autumn. Then are enumerated a few circumstances favorable to the operation of miasma on the human system. These are—

First—moisture and depressed situations; *second*—woody places. That the influence of this circumstance is ambiguous, might be easily shown. But we are now stating our author's

opinions, not our own. *Third*—the cold of night air (*ay, and its moisture, too*) and all great and sudden vicissitudes of atmospheric temperature; *fourth*—the mixture of sea-water with the water of marshes. This position being laid down, our author, either to display his *ambidexterity* in argument, or, in the belief that "second thoughts are best," (we know not which,) steps forth as the champion of the opposite opinion, and, by *counter-authorities*, (every thing is done by him through the same channel,) he invalidates, in his own mind, his first authority. Why does he believe it invalidated? Because it is sustained by only *one* name; while the opposite opinion is backed by *two*. Sir John Pringle alone contends that a mixture of salt and fresh water renders a marsh sickly, whereas Dr. Jackson and Mr. Stevens deny it, and espouse the contrary belief. And, with our author, whose opinion seems to have been here, that the majority must rule in science as well as in politics, this turned the scale, and established his dogma.

As respects the fact, there is no doubt that salt-marshes, daily overflown by sea-water, are much less insalubrious than those which are the product of fresh water. For this, several reasons might be rendered; but we shall content ourselves with *one*. The daily sweep of the tide not only prevents putrefaction from rising to a high pitch; it also absorbs and carries off the chief part of the malaria that may be produced. That the odour of salt-water marshes is strong and exceedingly unpleasant, is true; but the odorous gas does not appear to be a febrile poison.

Professor Hosack's view, as to the mode of production of malarious fevers, and their nature when produced, are contained, and show themselves with sufficient clearness, in the following clause:

"Miasma, no doubt, operates as a *ferment upon the whole system*, having its peculiar laws, like every other poison introduced."

Luminous, profound and comprehensive as this sentence was probably thought by the Professor himself, as well as by his friends and admirers, we assert that it does not contain a single definite and intelligible idea. What is the "*ferment*" alluded to? A mere *notion*, as empty and undefined as was ever uttered. What, again, are its "peculiar laws," and what the "laws of other poisons" to which they are likened? Who will answer these natural and necessary questions? Not one. Why? Because they are unanswerable, on account of what they relate to being *nonsensical* and *absurd*. The whole process of *notion-making* here practised, is one of the veriest *soap-bubbles* of the mind that has ever been set afloat. It consists in an unmeaning attempt to illustrate a thing not understood, by comparing it to another thing no better understood. In other words, it is an effort to bring *something* out of *nothing!*

Nor are we able to think much more highly of the Professor's mode of treating malarious fever, especially if applied to those that prevail in the Mississippi Valley. His views on this subject may be sufficiently understood from the following singular and expressive sentence:

"Colonel Howell's family, too, in New Jersey, was attacked with fever, in consequence of cutting down a wood that separated them from a *morass* in the neighborhood. Before that operation, they had been healthy; but the consequence of this change was, that most of the family were attacked with fevers—three died—eight or ten recovered by means of *blisters* and the *free use of bark, wine* and *snake-root!* Similar facts have frequently occurred in the West Indies."

Suppose a case of the kind to occur on any of the large streams of our valley, (that referred to by Professor Hosack was near to the Delaware.) A family, we say, consisting of a dozen or more of souls, are attacked with autumnal fever on the Ohio or the Wabash, and, instead of bleeding, purgatives, and antimonials, they are freely blistered, and copiously drenched with barks and wine—suppose such a proceeding, we say, what proportion of said family will recover? Without attempting a specific answer to this question, we say distinctly, that, if *one recover*, he will do so in *spite* of the doctor and his ministry! The practice would be murderous. Yet are we assured, by the most distinguished of the Philadelphia Professors, that the "*practical part* [of the Lectures we are examining] *he considers sound, or at least that it corresponds very much with his own views.*"

To "LECTURE XV.,"

our author gives, as its heading, the sufficiently significant terms of

"CONTAGION AND ITS LAWS."

To follow the Professor through the whole extent and doublings of his long, and labored, and tortuous homilies on this subject, is not our intention. We have neither time nor patience to execute the task; nor would we deliberately inflict on our readers the severe trial of reading the result of such a disquisition. The toil of the analysis, moreover, is unnecessary, in as much as all our author's views on the subject have been long since and repeatedly examined and refuted. As respects the contagious nature of yellow fever, in favor of which the Lectures before us partinaciously contend, that, as far as our information extends, is now believed in by no one who has spent even a day in seriously examining it, under favorable circumstances. Except with a few, who have never

seen a case of yellow fever, and are ignorant of it, of course, as well in its nature as in all its relations, a belief in the contagious quality of that complaint, is as obsolete, and deemed as much of a superstition, as a belief in witchcraft. As respects ourselves, we assert, without hesitation, that we can adduce as much *solid*, or even *highly plausible*, matter in support of a belief in the contagiousness of rheumatism or intermitting fever, or even of mental insanity, as any one can in support of the notion of yellow fever contagiousness. To descant on that topic, therefore, we should deem an unpardonable waste of time. To a very brief discussion, then, of the *supposed* contagious quality of *oriental plague* alone shall we devote a few pages.

In no respect essential to the constitution of the most striking *similarity*, or even of *virtual identity*, does that complaint differ from yellow fever. The points in which the two diseases differ most from each other, are neither *radical* nor *indispensable* to them. A jaundiced skin and black vomit, though frequent accompaniments, make no *necessary* part of yellow fever; and plague is not always free from them. And buboes and carbuncles, though most frequent in plague, are not essential to it, and have been seen also in yellow fever. With the exception of those four affections, three of which are *local externals*, and the fourth a *non-essential*, the complaints are the same, only modified by the peculiarities of different countries, and of the constitutions of their inhabitants. They begin under like circumstances of time and place, attack most readily persons of the same age and description, the course and duration of individual cases are alike, they spread under similar circumstances, and with equal rapidity, and they terminate under circumstances equally similar. Such is the general mass of facts; and if apparent exceptions occa-

sionally occur, that is no more than occurs in all other cases, and they may be easily explained.

Plague and yellow fever terminate their career at the commencement of cool weather, when malaria, the result of putrefaction, ceases to be generated, and when that already in existence is precipitated or otherwise holds no longer possession of the atmosphere. After this, there is no further dread or suspicion of contagion, until the next return of hot weather—for both complaints are hot-weather productions. Immediately on the close of those epidemics in the autumn or winter, houses depopulated by them are entered, *without purification*, by fresh families, beds where the sick had lain and died are slept on *unwashed*, the furniture found in the dwellings is familiarly handled and used, and all this is often done under a great want of cleanliness; and yet no one sickens in consequence of it from plague or yellow fever, until the return of another malarious period; and then no caution nor cleanliness is a safe-guard to health. To persons well acquainted with the history of plague and yellow fever, these facts are as familiar as the vicissitudes of the seasons. Nor is this all.

In a pure and unvitiated atmosphere the two diseases are alike incommunicable, and alike unsuspected of the qualities necessary to render them communicable. That yellow fever is never communicated from the sick to the well, on the heights of the Schuylkill, remote from the pestilential atmosphere of Philadelphia when visited by the malady, nor on the heights around New York and Baltimore, under similar circumstances, is a fact as thoroughly established, and as confidently believed, as any other in physical science.

Of the oriental plague, the same may be affirmed. On the heights round Constantinople, Smyrna, and Alexandria, it is perfectly well known to be an *incommunicable* complaint.

Nor will any one versed in its history deny this assertion. By Dr. Russell himself, the great apostle of contagion, and by every other writer who has adverted to the fact, its truth is acknowledged. The cause of this is plain. On the heights referred to, the atmosphere is free from a pestilential taint; and, by the bodies of the *sick*, no contagious matter is secreted to poison the *well.*

But, say our author and his adherents, plague *is* contagious; because it has been communicated, by inoculation, from the sick to the well. No such thing, we reply—no such thing! Plague has never been thus communicated, any more than common bilious fever. Nor, as far as we are informed, has the experiment ever been properly performed.

True, into the legs or arms, hands or shoulders, of individuals who had been *previously exposed to a pestilential atmosphere*, matter from buboes or carbuncles, or both, has been inserted; and the persons have been afterwards attacked by pestilence. And so would they have been, just as readily, had they not been inoculated. Why? Because they had derived the poison of the disease from an unsound atmosphere.

But in a pure and healthful atmosphere, remote from the sphere of pestilence, inoculate, with the so called *pestilential fluid*, a person who has never been within that sphere, and let him not approach it afterwards; and the inoculation will be fruitless. The health of the individual will remain unimpaired; except perhaps some local and temporary irritation which may be produced by the insertion of the vitiated fluid into his flesh, as happens not unfrequently to the dissection of dead bodies, when they scratch or puncture their fingers with their scalpels. Is the specific disease, of which the person under dissection died, thus communicated to the dissec-

tors? No; nor will plague be communicated by inoculation with the vitiated matter from the body of a patient laboring under that malady. We fearlessly hazard our opinion, and reputation, that, by a thousand experiments thus cautiously and skilfully performed, not a single attack of plague will be produced. In a word; as soon as the notion of the contagious nature of plague shall have been scrutinized as severely and judiciously, as has been that of the contagiousness of yellow fever, it will be with equal certainty dissipated and consigned to the class of *untenables* and *obsoletes*. And thus shall we be free from the trammels and immense evils—of one more of the superstitions that have come down on us from ages of ignorance and error.

To give the work before us another opportunity of *speaking* for itself, and our readers, also another of *judging* for themselves respecting its merit, we shall extract and publish entire, "Lecture LVII, on Rheumatismus vel Myitis." This lecture constitutes perhaps as fair an average, in matter and manner, of what the book contains, as any other we could select. We beg our readers to peruse it carefully; and if they can derive any benefit from a farrago, which to us appears indefinite, pointless, and in many points all but *meaningless*, we wish them joy of it. And might we venture to tender respectfully, a word of advice to the Reverend Editor of the volume, it would be, that he confine his professional labors hereafter to his own vocation, in which we are told that he is not a little distinguished.

LECTURE LVII.

RHEUMATISMUS VEL MYITIS.

Rheumatism, the myitis of Crichton, thereby denoting the seat of this disease to be chiefly in the muscles. By Dr. Parr the old name of arthritis is retained, which by the ancients

was applied both to gout and rheumatism. It is important that they should be separated, both as regards their nature and their treatment. With this view too Dr. Parr annexes to the term arthritis, the adjunct rheumatismus; gout he calls arthritis podagra. I have retained the term rheumatism, as pretty generally agreed upon among writers. It is so called from rheuma, (from the verb *rheo*, fluo,) denoting a defluxion on the part affected; and answers the purpose as well as any other name proposed; and has this advantage, that it is well understood. Dr. Cullen's definition contains many details, viz. "morbus ab externa, et plerumque evidente causa; pyrexia; dolor circa articulos, musculorum tractum sequens; genua, et reliquos majores, potius quam pedum vel manuum, articulos, infestans, calore externo auctus." He intends by the first part of this definition to distinguish it from gout; but this is not the place for diagnosis. A definition should contain only the characteristic symptoms of a disease. The first part of his definition is not invariably true, that it proceeds, (in all cases,) from an external cause; nor is the last uniformly true, that it is increased by external heat. Besides, these circumstances are equally true of any of the phlegmasiæ; they are applicable to gout as well as to rheumatism, for gout frequently, like rheumatism, is excited by cold; and, like rheumatism, is increased by heat. Rheumatism, acute, Dr. Home observes, is more frequent in summer than winter; attacks more females than males; that it is rather a nervous than inflammatory disease; that antispasmodics are most effectual in curing it, but, by the by, venesection is the best antispasmodic; that of twenty-two patients in the infirmary with it, sixteen were females; that he has more in summer than winter; but his observations are made at the infirmary. Query: Are there not some circumstances probably overlooked, which will otherwise account for these occurrences, so contrary to general observation? That it is not the heat of the bed which aggravates the disease more at night, but what he calls a nocturnal paroxysm, observing that the patients with it are always in dread. This same remark will extend to most inflammatory diseases.

Another exception to Dr. Cullen's definition is, that it is not confined to the joints: on the contrary it frequently affects the muscles of the head, of the chest, of the abdomen, and even the viscera, as well as the joints; and it affects the small joints as well as the larger. I know a lady, afflicted with a rheumatism, who had large deposits of chalky matter, similar to those of gout. Dr. Gregory has also frequently made this observation, that rheumatism affects the small as well as the

larger joints; that he has seen the fingers crooked with it, and then of course incurable. Dr. Cullen, therefore, should have added the qualifying expression, "plerumque," after "dolor." Indeed, rheumatism might be defined to be an inflammatory disease of the muscles, (including their fasciæ, or inclosing membranes,) and the membranes composing and surrounding the joints. And like the inflammation of some of the viscera, it might also admit of the distinction into membranous and parenchymatous, showing by the former, that the disease is more immediately seated in the membranous portions and coverings of the muscles, and of the joints; and that the latter more especially affects the strictly muscular and cellular portions of the muscles; and in which the pain and febrile symptoms are relatively less acute, which sometimes terminates in abscess. In the definition in my nosology, I have accordingly adverted to these particulars. Read there my definition of rheumatism. In my definition of species, I have complied with custom in dividing it into acute and chronic. Yet I wish it to be understood that I consider chronic rheumatism, as chiefly the sequela of the former; a morbid sensibility that remains in the part after the acute or febrile rheumatism has run through its course, and the evidences of general excitement have subsided, as scirrhus succeeds to inflammation. Accordingly Dr. Cullen places chronic rheumatism under a distinct head of arthrodynia or pain of the joints; and considers it, very properly, among the consequences or terminations of rheumatism; and which he thus defines: "Post rheumatismus, nisum violentum, vel subluxationem; dolores artuum vel musculorum, sub motu præsertim, aucti plus minusve fugaces, calore lecti vel alio externo levati; artus debiles, rigidi, facile, et sæpe sponte frigescenter; pyrexia nulla; tumor plerumque nullus."

Some allege that rheumatism sometimes takes place from the presence of an inordinate quantity of lithic matter in the system. The phenomena arising from this supposed cause, are more satisfactorily to be explained by the interrupted state of the excretions, and the febricula such interruption produces, attended with pain, and other irritations of the debilitated sensitive system; for these occur most usually in advanced life. And from the same causes, the impaired state of the excretions, we may account for the inordinate deposit of earthy matter in different parts of the body.

The symptoms of accute rheumatism are those of the phlegmasiæ in general. It usually comes on with chills, succeeded by great heat, with pain in the limbs, changing its seat from one joint to another, and is especially increased by the heat

of the bed, and occasionally attended with great soreness to the touch of the surface as well as of the internal parts. The pulse is hard and frequent; the tongue white and furred, with great thirst. The secretions are generally interrupted: the urine appears pale; afterwards becomes high caloured, depositing a large lateritious sediment, as in gout; but the patient still is not relieved. Indeed we shall find that gout is rheumatism in the small joints; and rheumatism is gout in the muscles and larger joints, though usually proceeding from different causes, and occurring at different periods of life. Stoll mentions that they are only varieties of the same disease. (Rat. Med. Part 3, p. 137, 430.) And Bergius believes that they are convertible diseases. The fever continued, and a direction of the fluids taking place to the limb, or parts affected, swelling ensues, oftentimes resembling that which is attendant upon the cruritis or phlegmasia dolens of lying-in women; and, like that, affording the patient some release from his sufferings; for the pain is frequently suspended by the pressure upon the nerves of the limb. This disease occurs at those seasons of the year which are most changeable, as the spring and autumn, not so much so in the uniform and steady cold of winter, nor in the warm seasons of the year, or in warm climates, with the exception of bathing in cold water when heated, or lying on the damp ground when the body is perhaps under excitement. But in the country it is relatively a disease of frequent occurrence, owing to the moisture of the earth, and of the atmosphere, to which the inhabitant of the country is exposed.

Its terminations are, by resolution. Sometimes metastasis, as to the head, the lungs, and the heart, especially where the practice is feeble. (See Bedingfield, p. 307.) Abscess sometimes. More commonly in a gelatinous affusion; and in deposits of earthy matter. In this it differs from many, nay most of the phlegmasiæ, except it be the gout, to which it is most nearly allied. When it ends by resolution, I have known a case where it assumed the intermittent character, the pain returning at a regular hour upon alternate days, but with very little fever. This is called by Alibert, the rheumatic form of intermittent.

DIAGNOSIS.

It is distinguished from gout by the cause and time of life. The ancients knew nothing of rheumatism, as distinct from gout. Sydenham was the first who made the discrimination. He had experienced gout himself, and saw rheumatism in

others. Boerhaave too had rheumatism eight months. The best account of it is in Van Swieten's Com., a book shamefully overlooked.

Gout usually appears after thirty-five; rheumatism before that period of life; sometimes at five or six years of age. Gout most usually arises from the sanguine and plethoric habit of body and free living.

Rheumatism from cold. In rheumatism, too, the fever is continued. In gout, most commonly, it intermits; at least a sensible remission is apparent. In gout the stomach is principally affected; not so in rheumatism.

Nephritis is distinguished from it by the peculiar symptoms that attend upon the organ diseased, as connected with the stomach, the testes, and the round ligaments. Boerhaave, strange to tell, in his own case, committed this error by confounding nephritis and lumbago!! Bending the body alone, in nephritis, should decide it; whereas in lumbago the body cannot be bent without great suffering.

Hydrargyria is another disease, produced by mercury, that is very similar in its symptoms, but differs only in its cause. Indeed in the relaxed state of the exciting and sensitive condition of the nerves, it is not improbable that cold, in most cases, produces it, even though mercury be acting on the system.

"A course of mercurial medicines," says Heberden, "has, with great reason, been suspected of bringing on something like this distemper (chronic rheumatism) in many persons; and it has appeared to do so in the same person five or six times; i. e. as often as the mercury was repeated." (Heberden, p. 501.)

Arsenic too produces rheumatism, whether directly or by adding to the irritability of the system, is not so easily decided. In those countries where it is much employed in the treatment of fevers, rheumatism is of frequent occurrence.

PREDISPOSING CAUSES.

1. Fulness of habit by creating an inflammatory state of the system. Sir Clifton Wintringham remarks, that those who have undergone amputation of a limb are thereby predisposed to this and other inflammatory diseases. G. M. lost a limb. He afterwards became plethoric; gout followed; and from this disease he suffered severely, notwithstanding the anticipations of the person who congratulated him upon the cost of his limb, believing that God had great things in store for him, by taking away one of his legs. Upon this

occasion, he addressed Mr. M. very earnestly. Mr. M. replied, "Sir, you really speak so eloquently upon this subject, and hold out so many blessings for me, in consequence of the loss of my one leg, I am almost induced to lose the other also." (Comm. de Morb. Quibusdam, Art. 79.) But to return: 2. A sanguine temperament. 3. Vigour of early life; i. e. from childhood to thirty-five. The young, the vigorous, and the active. Hence, too, we infer its inflammatory character, independently of its symptoms. 4. Intemperance will predispose to it. 5. A former attack, by which the parts affected are rendered very sensible to the exciting cause.

EXCITING CAUSES.

Cold, heat, or the two alternately applied; violent exercise; change of dress; intemperance; wet clothes; cold bathing when heated.

TREATMENT.

Venesection, general, repeated three or four times. As Dr. Gregory used to remark, there is very little danger, as it regards the patient's life, but he is in great danger of losing the use of his limbs if you do not industriously cut off the flow of blood to the inflamed part. Gregory's bleedings were too small; viz. about ℥xij.; hence he found it necessary to repeat them. Local, by leeches; cupping repeated, not regarding the buffy coat, for the buffy coat exists in the last stage as well as the first. Thomas remarks, that in rheumatism the buff increases as the disease advances. So also in intermittents. (p. 157.) Dr. Gregory makes the same remarks. Even after one hundred and seventy ounces have been drawn, the disease has, in some cases, been unsubdued. This treatment was therefore condemned as erroneous by Dr. John Fothergill, and by Dr. Haygarth, who then prescribed the bark! Fordyce, too, came into their views. (See Thomas, p. 186. See also Clin. Hist. of Diseases, Edin. Journal, Vol. 1, p. 482.)

Saline purges—A course of James' powders. Sudorifics—Warm bath; fomentations; sinapisms, moxa. Blisters—Ointment of tartarized antimony. Liniments—volatile; camphor, dissolved in oil, or the volatile liniment, preferred by Dr. Good to the spirituous liniment, which he supposes to dry the skin too much; which heats and stimulates without exciting moisture; a waistcoat of coarse, brown sheething-paper produces a diaphoresis, and excites by the tar with which it is so

largely impregnated; oiled silk. Diuretics—Nitrate of potash. Dr. Brocklesby's great remedy was nitre. Dr. Kuhn's also. It was combined with the tartrite of antimony. Digitalis has also been by some recommended on account of its diuretic properties.

Anodynes are very proper after the inflammatory state has been subdued by depletion; in that case, Dover's powders may be very beneficially prescribed. It was in this disease that Dr. Dover first introduced this valuable combination of opium, ipecacuanha and the sulph. of potash. He became celebrated in early life as a captain of one of the privateers in Queen Anne's time, that sailed round the world. In the last of his life he distinguished himself by the introduction of this powder; and by another practice he introduced, of giving crude quicksilver—he took it himself in large quantities, and became so attached to it that he said, if he could afford it, he would swallow a pound of quicksilver daily—the facetious Dr. Dover, as Fuller calls him. Garthshore and Sir John Pringle as well as most practical writers, concur in the approval of this sudorific anodyne, which preserves a pervious state of the skin, at the same that it allays the sufferings of the patient. It should be renewed every three or four hours, until sweating is produced—renew it in twelve or twenty-four hours to continue the sweat. Rhododendron chrysanthemum of Linnæus, also once much in use, both in gout and rheumatism—a native of the snowy Alps and mountains of Siberia—in Russia also much employed, says Dr. Guthrie. (Med. Comm. vol. 5, p. 434.) Three or four doses generally giving relief. (See also Pearson's Mat. Med. Home's Clin. Exp.) Another remedy that has come into use in acute rheumatism, is the Peruvian bark. Dr. Haygarth, Dr. Fordyce, and Dr. Duncan, as well as others, viz: Sir Geo. Baker, Dr. Heberden, Dr. Saunders, Dr. Willen, Sir Lucas Pepys, Dr. Lettsom, Dr. Aikin, and Granger, are the advocates of this practice. (See Med. and Surg. Remarks.) Dr. Haygarth introduced it as early as 1772. In the hands of others it has not been prescribed with equal success—on the contrary, with decidedly injurious consequences. Dr. Cullen had reason to think it injurious. Dr. Haygarth was so convinced of its superior efficacy, that he thought the bark did not cure an ague so quickly and so successfully as it does acute rheumatism!! Dr. Gregory disapproves of it in the first stage—in the greater proportion of the cases it did no good. He observes, it is well to keep it in view, especially in cases where you fail to effect a diaphoresis; this last is questionable practice. Bedingfield observes that it is generally injurious in

rheumatism. Thomas uses it but in combination with nitre. I have seen it prescribed by Dr. Duncan, in the Infirmary of Edinburgh, in several cases, with the most favourable results, while in others, with an aggravation of the disease, altogether depending on the stage of the disease and the habit of body in which it was administered. It is the want of attention to these particularly, and the want of discrimination on the part of the prescriber, that has led to these different and opposite results that have been noticed by practical writers. When the disease is attended with the symptoms of active inflammation and general excitement, the bark as well as other stimuli, must be injurious. But there are cases wherein local inflammatory symptoms may be continued after the general excitement is taken off, that is, partial excitement continues. The effect of increased sensibility of the part, attended with a small pulse, cool or cold extremities, and the general powers of the system greatly impaired and reduced by the depletion the patient has undergone. Thus we often see a headache, a sore throat, an inflamed eye, or other local affection, are sometimes thus continued, that is, by the stimulus of relaxation, as Mr. Hunter calls it; in other words, irritability or susceptibility, which is only relieved by tonics and stimulants that shall distribute the excitement throughout the system, and which at the same time shall diminish the sensibility of the part affected; so of rheumatism. There are cases where stimuli are especially useful in this way; and in like manner, there are cases where the sensibility of frame is such that even the whole arterial system shall partake of it, and a degree of fever be produced that as in typhus, hectic, scarlatina, and other fevers, is only to be counteracted by stimuli and tonics. In such cases the bark may diminish both pain and fever, by imparting tone to the system, and thereby lessening sensibility which is frequently the accompaniment of weakness. In cases of this nature, however, much discernment and practical observation are required to know when the depletion is to be persisted in or tonics and stimuli are to be administered.

The diet should be the strictest abstinence during the synochal stage of rheumatism. No animal food in any shape—on the contrary, a cool, spare diet; milk whey, buttermilk, ripe fruits, gruel panada, rice, &c. I have known the obstinacy of patients and their friends, in this disease, by the use of animal food, to render all that had been done of no avail, by the excitement being renewed by the use of animal food. Diluents—mineral waters. Regimen—do not load the patient with great quantities of clothing, or bedding. Flannel or

cotton next the skin are assuredly necessary and proper; but great care to avoid abuse as to their quantity.

We now proceed to notice that form of rheumatism which is called chronic, the arthrodynia of Dr. Cullen. For the most part, as already observed, this is usually the consequence of preceding attacks of the acute or inflammatory rheumatism; and is continued as the effect of great sensibility of the part, and of the whole system. In some cases the secretions are checked, accompanied with a slight degree of fever. Aged persons thus are frequently affected by pain connected with some febrile symptoms induced by a constriction of the surface, or perhaps by debility in the extreme vessels. Not unfrequently, too, they are the effect of local injuries, as violent exertions, falls, strains, or bruises of the muscles or joints, to which the aged are particularly exposed. In those cases, mild evacuations by the bowels and the use of some diaphoretics will be at first proper; but as soon as fever is altogether removed, as in the last stage of acute rheumatism, stimuli are called for, especially such as are calculated to preserve an open state of the surface of the body. The Peruvian bark is had recourse to by some, bitters by others; chalybeates, in the form of chalybeate waters, or iron in substance; given in the tinct. volatile ʒii. ter in die in milk, decoction of the woods, with camphor. ℞. guiac. ʒvj., camphor ʒi., opii. ʒij., tart. emet. ʒi. M. divide in pill 120—two to be given three times a day. Turpentine in form of the oil ʒi.—ʒi. of honey, a teaspoonful occasionally. Local stimulants—plasters, the emp. calidum, pix burgund., tart. emet. ointment, the Hungarian plaster. Liniments—soap lin. with aq. ammon. aa. ʒij., turpentine, essence of mustard, stramonium ointment, spirituous baths, hot baths—106° Fahrenheit—friction with flesh brush, flannel. This was constantly the practice of the Greeks and Romans; the Chinese, too, in health, to prevent disease. The Emperor Augustus, it is said, was so completely curried that his skin exhibited the effects of the instrument. Flannel shirts,* bandages, rollers, knee cap. (See Balfour on bandages in rheumatism. Med. Repertory, vol. 6. p. 19.) A slight mercurial action in the system is recommended by Bedingfield, by giving calomel ℈i. twice a week. The dracontium fœtidum, or the skunk cabbage, is advised by Dr. Thatcher, in his medical practice; of the dried root he administers xx. or xxx. grains, three or four times a

* A flannel shirt, Dr. Gregory used to tell us, was worth half a dozen of any other remedies in this disease.

day, or an infusion of it. Phytolacca decandra, or poke weed, has been recommended, in the form of an extract from the leaves, or of a tincture of the leaves. Tinct. colchicum is also advised.

The diet should be generous, such as wine-whey, porter, animal food. Condiments, as mustard-seed, horse-radish, cayenne, &c.

REGIMEN.

Let the dress be flannel, frequently changed; exercise, especially a journey. If confined to a chamber, the dumb bell, that is, a mass of metal with a rope fastened to it and passing it over a pulley, pulling it up and down, as in ringing a bell.

If we have been hitherto silent in relation to the style of these "Lectures," it is not because we regard the style of scientific and professional writings as a matter of indifference. Far otherwise. Though we should condemn the overloading of such works with labored and powerful decorations of expression, we have yet to be informed of any good reason, why they should not be written as purely and chastely, as correctly and perspicuously, as other forms of composition. Why should matters of history, poetry, and moral fiction be presented to the public eye, decked out in all the beauties and decorations of language and imagery; and the still more important matters of science and profession be brought forward, covered with apparel that can scarcely be called decent? We are not unacquainted with the reasons assigned for this difference; but to us they are unsatisfactory. We think that science not only deserves, but demands a style both sound and clear, classical and vigorous.

Without pronouncing the style of the "Lectures" peculiarly faulty, we are warranted in saying that it is equally remote from being unusually creditable. Though we do not call it either vulgar or obscure; it is coarse, crude, and far from being definite. The words employed in it are neither

tastefully selected, nor judiciously collocated. The writer would seem to have been too much engrossed by the language of the Greeks and Romans, to have bestowed the requisite attention on his own—much more anxious to be accounted a profound Greek and Latin, than a well-disciplined Belles Letters scholar. And we regret to say, that this is too generally the case, with all vain-glorious votaries of the dead languages. And it is all wrong, instead of a mere smattering of Greek and Latin (and none of us acquires, or can acquire more,) the true glory of American scholarship consists in a thorough scientific knowledge, and practical command, of the unequalled resources of the Anglo-Saxon tongue. C. C.

Art. XV.—*The Medical Examiner.* Edited by J. B. Biddle, M. D., M. Clymer, M. D., and W. W. Gehhard, M. D., Philadelphia.

The American Medical Library and Intelligencer. A concentrated record of Medical Science and Literature. By Robeley Dunglison, M. D., M. A. P. S. Professor of the Institutes of Medicine and Materia Medica in Jefferson Medical College, Attending physician to Philadelphia Hospital, and Fellow of the College of Physicians of Philidelphia, &c. &c.

We have no wish to come into collision, or to engage in any sort of controversy, with the conductors of these two interesting Periodicals. On the contrary, it is our earnest desire to preserve peace and live in harmony and good fellowship with all writers, as far as we can do so, consistently with the decision of our judgment, and the dictates of our conscience—but

no farther. Neither jot nor tittle of what we believe to be true and useful will we sacrifice, in any case, on the alter of Concord; because such an act, culpable in principle, and mischievous in tendency, is forbidden by the mandate of a superior Deity.

In our reviews of works of every description, however high and imposing may be their authorship, and whatever degree of favour they may have found elsewhere, we shall express our sentiments freely and fearlessly, without intending to give offence, but regardless of such offence as may be causelessly taken. Nor do we know any good reason why our Atlantic brethren should take exception at us for thinking differently from them respecting works, opinions, or doctrines in medicine, any more than why they should find fault with us, because we choose to reside on the west, while they prefer the east side of the Allegheny mountains. And we beg leave to assure them, that their dissatisfaction on either or each of these points will neither detract from the amount of our waking enjoyments, nor from the soundness of our repose. Worse still; it will not even convince us that our opinions are groundless.

If they wish to reclaim us from error, they must condescend to *reason* with us. By dictation and censure they will gain nothing but our calm disregard.

These remarks have been drawn from us, by the manner in which our review of the late Professor Hosack's "Lectures," in the first number of this Journal, have been noticed by the two Journals, whose titles form the heading of this article. In this reference we allude more especially to the style and spirit of the notice contained in tne "American Medical Library and Intelligencer," which is neither courteous nor manly; and which, as far as it has *any* meaning, "means mischief." But more of this presently.

To the notice contained in the "Medical Examiner," we have no material objection to offer, except that the doctrine maintained in it is erroneous and untenable, as we shall endeavour to make appear. The courtesy which marks it is such as ought to subsist, and always *will* subsist, between *cultivated* and *ingenuous* advocates of truth. It is the uncultivated, the disingenuous, or the ill-tempered, or the three united, that attempt to sustain their notions, or gratify their unkind feelings, by means which the soundness of science, and the comity of letters concur in disclaiming. One observation more before we commence our exposition of the fallacy of the doctrine contended for in the Examiner. Should a conflict ensue, on the ground of that doctrine, between that Journal and this (an event which it is our sincere desire to avert,) let it not be forgotton that the Examiner threw down the gauntlet, and that we only did not decline to lift it. The sentiment in question is one which we have long entertained, and often avowed. And on our last avowal of it, we expressed ourselves in a *general* way, without the slightest expectation or wish to excite a controversy. We repeat, therefore, and desire it to be borne in mind, that the Examiner is the assailant.

In our reeviw of Dr. Hosack's "Lectures," it will be remembered that we excepted to them chiefly on two grounds; their fearful hypertrophy of reference, quotation, and authority; and their incorrectness as a standard of *practice* for the *diseases of the West and South*. On their relation to the complaints of the Atlantic, middle and northern States we neither made then, nor mean to make now, a single remark. To decide on that point belongs to the practitioners of those States; and to their judgment the matter is referred.

To our censure of the quotation and-authority-stuffed style and manner of the "Lectures," the Editors of the Examiner do

not object. On the contrary, we doubt not that, on that topic, they silently concur with us. The reason is plain. Their own style and manner, as well as the style and manner of the school, in which they have been educated, and of the authors they most admire, are entirely different. In plain terms, we think too favourably of their taste, to allow ourselves to hold it possible for them to approve of composition so utterly wanting in literary merit. But for the following sentiment, expressed in the Examiner, there is not the slighest foundation in nature, as the Editors would be themselves convinced, if, instead of fancying in their closets in Philadelphia, how things *may be* in the West, they would visit our Valley, and *learn* how they *are*. They would then perceive, in all its force, the truth of the Novelist's allegation, that a man rarely writes the worse, for having *some knowledge* of the subject he treats of.

"If," say the Editors, "the doctrine be carried out, that a student is to study medicine just in the spot where he is to practise it, our friends at Louisville will be narrowed down to a much more limited range of pupils, than the "Valley of the Mississippi. We apprehend that the same variety may be found between the diseases of different points of this locality, as between many of them and those of the seaboard."

That many people may call this remark *smart*, and some perhaps even *keen* and *shrewd*, we think probable. But no competent judge can possibly pronounce it either *sound* or *conclusive*. Worse still. It is not candid. Our reply to it shall be brief.

We have no where alleged that a "student is to study medicine *on the spot* where he is to practise it." Of this the Editors must be as sensible as we are. Why then have they virtually asserted the contrary? The answer is plain. They

had nothing better to assert. They were bankrupts in solid matter for the support of their notion. They had therefore no alternative but to observe silence, and surrender at discretion, or deal in error—at least in a sophistical expedient no better than error. They remind us of the awkward and embarrassing condition of the Poet's Jack Skyscape, who, "Because he knew not what to say, he *swore*." Because they knew not in what way to *reason*, they *played the sophist*.

The real substance of what we have said on the subject is, that medical pupils can be taught *correct* practice only in schools, whose professors have themselves a *practical* knowledge of the character both *general* and *special*, as well as of the *treatment* of the diseases, with which the pupils are to be afterwards concerned. And the position is, in itself, so intuitively clear, that we shall not attempt to illustrate or prove it. As soon would we labour to establish the fact, that ponderous bodies, when unsupported, fall to the ground.

But diseases are the product of the regions where they prevail. If the regions are alike therefore, however extensive they may be, the diseases will be also alike. This is another maxim in medicine, which no one versed in the profession will deny. And its application to the case before us is direct and palpable.

The Mississippi Valley has two peculiarities. It is, we believe, the *largest* valley in the world, and, throughout its whole extent, the most strikingly *similar to itself*, in all its *leading features* and *characteristics*. This the Editors of the Examiner will satisfactorily learn, if they will visit and examine it. And the tour would be equally *instructive* and *gratifying* to them. They would then become apprized, that from the Lakes to the Gulf of Mexico, and from the Allegheny to

the Rocky Mountains, the *geological formation* of the Valley is the same ; a circumstance which has a controlling influence on all its productions. And they would become farther apprized, that the febrile complaints in every section of it are so similar to each other, that a knowledge of them in *any* one part of it, is a knowledge of them in *every* other part. A practical acquaintance with them in the *immediate* valley of the Ohio, where Louisville stands, furnishes an acquaintance with them in every portion of the Mississippi Valley, sufficient for the purposes of medical instruction. This is a position which no western physician of judgment and experience will gainsay or question. Nor will the Editors of the Examiner question it, provided they take the proper steps to inform themselves on the subject. And such steps, when taken, will instruct them on another point, respecting which they need instruction—that the febrile complaints of the West and South are exceedingly dissimilar to those of the "*sea-board*" in the middle and northern States, and require different modes of treatment. In a word; the experiment, if judiciously conducted, will convince them most fully, of the insufficiency of Atlantic Professors to communicate to medical pupils a *practical* knowledge of the febrile diseases of the Mississippi valley. And this is all we have contended for. We have never denied to the Professors of the Atlantic schools a full competency to instruct their pupils in the nature and treatment of Atlantic diseases. But their competency, as relates to western complaints, we do deny, and assert the contrary opinion to be at war with reason, as well as with experience and common sense. As a conclusive experiment on this subject, we challenge any Professor east of the Alleghany mountains, and residing in the middle or northern States, or all of such Professors combined, to write, from their own resources, a book on

the treatment of western febrile complaints, and submit it to the judgment of western physicians, who are skilled in those complaints. Let this be done; and should such a book pass such an ordeal uncondemned, we will surrender our opinion on the subject, and acknowledge ourselves vanquished. But, should our challenge be declined, we shall hold ourselves authorized to pronounce such declension an acknowledgment, on the part of the eastern Professors, that they feel themselves incompetent to the enterprise proposed; and that they are therefore afraid to peril their reputation in it. And such acknowledgment will be self-condemnation, as relates to their fitness to communicate, in their lectures, such instruction as will possess any material value, with regard to the treatment of Mississippi fevers. But, say the editors,

"A man of intelligence, who is thoroughly grounded in the elements of medicine, will find no difficulty in adapting general principles to peculiar circumstances."

This sentence is somewhat obscure, if not enigmatical. But it may be thus unriddled:

A physician educated in an eastern school may come to the west, and *here learn by experience how to treat our western* complaints!

True; he may; and many instances of the kind have occurred. But wo! to the patients in whose cases he begins, pursues, and finishes his *practical apprenticeship!* and wo! to the condition of his own mind, if he feel as he ought to do, for the credit of his profession, and for human suffering and loss of life. And if his own reputation do not share in the suffering and deplorable fate of his patients, his lot will be fortunate beyond all reasonable ground of expectation or hope.

Before he can be prepared for the successful performance

of his duty as a practitioner, he must accomplish two tasks of weight and difficulty—forget the old and false precepts of practice, which he had imbibed from his eastern preceptors; and derive new and correct ones from observation and experience. On the contrary, the pupil who is educated in a western institution, escapes much of this trial, so *perilous*, not to say *destructive* to the sick, so distressing to himself and so subversive of his reputation. The reason is plain. While he is instructed in the *principles* of his profession, he is schooled also in an acquaintance with correct *practice*.

The exception taken to our review of Professor Hosack's "Lectures" in the "American Medical Library," is of a character altogether different from that in the Examiner. It is a censure, for no other reason, but because the editor is *resolved* to censure, and because, as he alleges, he knows the writer. Assuredly no other reason appears. Nor is the censure open and manly. It is one of those *oblique* strokes, which a man of more *cautiousness* than *courage*, who means to *inflict* an injury, without *receiving* one, *aims in the dark!*

For this reason, although we had determined to notice the attack, perhaps with some severity, and had even in part prepared a few pages to that effect, we shall decline publishing them, because we cannot stoop to engage at present in a contest, to be carried on chiefly by unkind feelings and disrespectful words. Should the editor of the "Medical Library" however continue to repeat his assaults, he may perhaps hereafter be replied to on the subject. We promise him that this shall certainly be the case, if he will *himself* write an article of *any merit*, in opposition to our review of Professor Hosack's "Lectures," and publish it in his Journal. C. C.

Art. XIV.—*Report of a Series of Experiments made by the Medical Faculty of Lancaster, upon the body of Henry Cobler Moselman, executed in the Jail Yard of Lancaster Co., Penn. on the 20th December*, 1839. Amer. Jour. of the Med. Sciences May 1840.

This is the title of the first article in 51st No. of the American Journal of the Medical Sciences. It was prepared by a committee consisting of Doctors W. L. Atlee and Wm. B. Fahnestock, appointed at a meeting of the physicians of Lancaster, held four days subsequent to the execution, for the purpose of comparing the notes of the different gentlemen who recorded the results of the experiments.

In addition to these, there were present, and assisting in the experiments, several physicians from Chester and Lancaster counties, the physicians and medical students of the town of Lancaster, and Dr. J. K. Mitchell, Professor of Chemistry in the Philadelphia Medical Institute, and W. R. Johnston, Professor of Chemistry in the Medical Department of Pennsylvania College.

Permission having been obtained from the Sheriff of the county, some days before the execution, to make any experiments, not in direct violation of law—these gantlemen, in order to prevent confusion, regularly organized themselves into a body—appointed persons to attend to specified duties, and arranged a programme to guide them in their operations. They obtained from the Penn. Med. College, a galvanic battery, "composed of two hundred pairs of Wollaston's plates, and constructed on Prof. Hare's plan of double trough and lever." From the Lancaster Conservatory of Arts and Sciences, an electrical machine, plate two feet in diameter, and a battery composed of "three very large jars."

Thus judicious and very ample preparations were made for

a course of experiments, the most important results of which we shall proceed to state, beginning with the Galvanic.

At forty-seven and a half minutes after execution, the positive pole of the battery being placed upon the left side of the neck, and the negative under the left seventh rib, and the fluid being thrown upon the plates, there followed "a spasmodic action of the muscles, supplied by the respiratory nerves." At forty-eight minutes after execution, the positive pole being retained upon the neck, the negative was applied to the epigastrium, "breaking the circuit frequently by patting the skin with the pole. This produced a violent action of the pectoral muscles, and established the respiratory action, producing audible sounds of breathing, with corresponding motions of the mouth, opening and closing regularly."—"Fifty minutes after execution, the positive pole being retained, the negative was passed along the linea alba down to the pubis. As the pole descended, the respiratory action became stronger and stronger, and when below the umbilicus, it became very powerful, particularly the expiratory efforts. The action of the respiratory organs was general, and air passed in and out of the lungs regularly. The mouth being closed, and a lighted candle held to the nose, the flame was blown out with force. This was repeated five times in quick succession. The candle could not be extinguished so long as the pole was applied above the umbilicus, but so soon as the skin was patted below the umbilicus, these marked results took place. There were regular inspirations and expirations, the flame of the candle passing in and out, so as to singe the hair in the nostrils."—Fifty-seven minutes after execution, the positive pole being retained, the negative was removed to the anterior part of the left thigh. Applied to the upper third of the thigh, the same phenomena occurred," (as those just detailed,) "accompanied with

still stronger expiration; but below that point the respiratory muscles did not act well."

The power of the battery was now varied by detaching the pole at the negative end of the battery, and carrying it backwards and forwards along the plates. "It was ascertained that the muscular contractions commenced at the 23d pair of plates, and that as the force of the battery was increased, the action of the muscles became stronger."

One hour and five or ten minutes after execution, the whole power of the battery being again employed, and the positive pole being placed upon the left side of the neck, and the negative shifted successively from the left to the right aliac region—to the glutæus maximus over the sciatic nerve—to the internal surface of the thigh—and to the left knee—there were produced in the same order of succession, contraction of the muscles of the left thigh—of the right thigh—of the gluteal and other muscles, throwing the thigh outwards—slight contraction of the adductors—and finally of those upon the anterior part of the thigh. One hour and twenty minutes after execution, the positive pole being placed over the supra orbital nerve, and the negative on the left side of the chest, "all the muscles of the face were thrown into violent action; the angles of the mouth were drawn up, the eyelids closed with a tremulous motion; and the occipito-frontalis was drawn and put into action, giving motion to the scalp. In the contraction of the muscles of the face, in no instance was there an expression of passion, but merely a distortion of the countenance, which Professor Mitchell significantly termed "grimace." The positive pole being retained, and the negative shifted to various parts of the arm and fore-arm, produced various movements of the arm, and flexion and extension of the fingers, according as it was moved from

place to place. Being afterwards applied to different parts of the face, various contractions were produced, particularly, strong compression and closing of the mouth. When applied to the nose, the muscles of the face generally acted.

One hour and thirty minutes after execution, the positive pole being placed on the back of the neck, and the negative carried down the spine—produced contraction of the muscles of the back—being placed upon the gluteal, the leg was thrown outwards—upon the posterior part of the thigh, the foot was raised and the leg flexed upon the thigh, &c. The negative pole being carried to the forehead and different parts of the face, " those muscles of the face used in mastication were thrown into action, and simulated chewing. There was also a grinding motion of the jaw, and a motion of the lips as in tasting."

GALVANIC EXPERIMENTS AFTER EXPOSING VARIOUS NERVES BY DISSECTION.

About one hour and thirty-five minutes after execution, the negative pole being placed upon the epigastrium, and the positive on the left par vagum, insulated, there "followed slight contraction of the muscles of the face, of the side, and of the intercostals." The descendens noni and spinal accessory of the right side being now exposed, the positive pole was placed upon each in succession, and the negative upon the epigastrium, but without any results.

At one hour and thity-seven minutes after execution, the positive pole being placed upon the right supra-orbital nerve exposed on the forehead, but not insulated, there followed slight contraction of the muscles of the right side of the face, and stronger contraction of the masseters. The positive pole being placed upon the inner side of the integuments inverted upon the forehead, there was slight contraction of the mus-

cles of the face ; but stronger when the pole was placed upon the cuticular surface of the integuments restored. "The par vagum on each side of the neck, being divided, the positive pole applied to the forehead, and the negative to the epigastrium, the results were the same as before the division." The negative pole being retained upon the epigastrium, and the positive applied to the cut end of the lower portion of the divided par vagum of the right side, "there was slight contraction of the muscles of the right side of the face.

From these last experiments, and afterwards making some, with the poles applied to the skin, it was found that nothing was gained by exposing the nerves, and the dissection was not prosecuted as far as had been arranged in the programme.

About one hour and forty-three minutes after execution, the spinal marrow being divided between the third and fourth cervical vertebræ—the positive pole placed upon the divided ends, and the negative upon the sciatic nerve, (the pole being also in contact with divided fibres of the muscle,) contraction of the gluteus maximus followed. The negative being shifted to the skin of the muscles, it was followed by stronger contractions. Being again shifted to the sciatic nerve insulated upon the handle of a knife "the effects were not so strong, and were more local."

One hour and fifty-nine minutes after execution, "the positive pole being placed in the incision on the neck, and the negative upon the external surface of the pericardium, the muscles of the face moved, and the eyes opened and shut repeatedly. No action of the heart." The positive pole being placed upon the skin of the neck, the same results followed, but in a more striking degree.

At two hours and sixteen minutes after execution, the positive pole being placed upon the right side of the face, and the

negative upon the external surface of the heart, there was some motion about the face, but no action of the heart. The positive pole being retained, and the negative passed into the right and left ventricles, through punctures in the pulmonary artery and aorta, " there followed a vermicular motion of the periphery of the right auricle."

About two and a half hours after execution, some few experiments were performed with the electrical battery, by which some slight muscular contractions were produced, but no very striking results.

Experiments and observations were made on the motions of the heart after respiration was suspended, and the quantity of the air in the lungs after death. The following table presents the results of those made on the pulse and the action of the heart.

Dr. Burrowe's Report on the Pulse.

3	minutes	after	respiration	was	suspended,	pulse	144 in a minute.
$3\frac{1}{2}$	"	"	"	"	120	"	"
4	"	"	"	"	120	"	"
5	"	"	"	"	150	"	"
6	"	"	"	"	150	and	scarcely preceptible.
$6\frac{1}{3}$	"	"	"	"	155	"	"
7	"	"	"	"	155	"	"
8	"	"	"	"	imperceptible.		
$8\frac{1}{2}$	"	"	"	no pulse at the wrist.			

Prof. Mitchell's Report on the Heart and Lungs.

4 minutes after tightening the cord sound of the heart obscure, rythm perfect,

$4\frac{1}{2}$ minutes after tightening the cord, sound of the heart less confused,

5 " pulsations so frequent that they cannot be counted,

$5\frac{1}{2}$ " sounds scarcely audible, pulsations very frequent,

7	"	pulsations 120 in a minute,
$7\frac{1}{2}$	"	pulsations 132 in a minute.
10	"	" 60 " "
$10\frac{1}{4}$	"	more sound than percussion of the heart,
$10\frac{1}{2}$	"	pulsations 60 in a minute,
11	"	distinct as to sound, and no percussion,
12	"	pulsations 54 in a minute,
$12\frac{3}{4}$	"	nothing audible,
13	"	sound entirely gone,

CHEMICAL ANALYSIS OF THE BREATH.

The day before the execution, 16 ounces, in bulk, of expired air were collected, and carefully secured in bottles well corked and sealed. Three minutes after execution, and before the noose around the neck was loosened, the trachea was perforated by means of a trochar, and there was collected 12 ounces in bulk of expressed air. A portion was analysed by Prof. Johnston of Philadelphia, and the remainder by Doctor Atlee of Lancaster. Prof. Johnston taking a portion of that obtained before execution, and having properly desiccated it, subjected it to the action of pure potassa, by which 2,609 per cent. was absorbed. Taking the remainder thus freed from carbonic acid, and detonating it with hydrogen, he obtained 17,84 per cent. "of the original bulk of air before the carbonic acid had been separated" of oxygen. This then would necessarily leave 79,551 per cent. for nitrogen. Having subjected that obtained after execution also to the action of pure potassa, 7,7 per cent. of carbonic was absorbed. In attempting to produce detonation of the remainder with hydrogen, to test the presence of oxygen, he was unsuccessful in every effort, notwithstanding the proportions of the air and hydrogen were greatly varied. He afterwards heated phosphorus in it to fusion, without any combustion ensuing. It was

then subjected to the action of peroxide of nitrogen, but with the same want of success as to the detection of the presence of oxygen. From this it would appear that in 100 parts of the respired air—

Before execution there was—Oxygen	17	84
Nitrogen	79	551
Carbonic Acid	2	609
	100	00
After execution there was—Carbonic Acid	7	7
Nitrogen	92	3
Oxygen	0	0
	100	00

Dr. Atlee in his analysis subjected the air obtained before execution, first to the action of phosphorus, to ascertain the quantity of oxygen; he found 14,80168 per cent. Subjecting the remainder to the action of alcoholic potassa he found 31,22213 per cent. of carbonic acid—which would leave 82,076107 for nitrogen. In the air obtained after execution he found by means of alcoholic potassa, 6,82214 per cent. of carbonic acid. Taking the remainder thus freed from carbonic acid and putting a piece of pure potassium in it, he found part of it converted into a protoxide. A piece of phosphorus was then fused in the same, and a thin white vapour was emitted. Believing from this that there was a trace of oxygen in it, he took another portion and detonated it with hydrogen; by which he detected the presence of 1,06944 per cent.

According to Dr. Atlee's analysis then, there were in 100 parts of respired air—

Before execution—Oxygen		14 80168
	Carbonic Acid	3 122213
	Nitrogen	82 076107
		100
After execution—Oxygen		1 06944
	Carbonic Acid	6 82214
	Nitrogen	92 10842
		100

A *post mortem* examination of the body was made two hours after execution, when there was found an enlarged and excessively congested state of the liver. "A piece of it being taken into the hand and squeezed, blood passed out as from a saturated sponge." Its convex surface presented a "marbled appearance." The spleen also was congested—the intestines "somewhat injected"—stomach healthy. "The jugular vein having been accidentally cut while seeking for the par vagum, a large quantity of blood was discharged from it." "Immediately after dividing the spinal marrow, there ran out about four ounces of serous fluid, followed by an immense discharge of blood which continued to flow for a considerable time after." There was no dislocation of the cervical vertebræ—no rupture of the transverse ligament—no fracture of the processus dentatus. A phrenological examination was made, but as this relates to the crime for which the execution was ordered, and not to the effects of that execution, we shall pass it by G. W. B.

BIBLIOGRAPHICAL NOTICES.

Art. XVII.—*Statistics of the Medical Colleges of the United States.* By T. Romeyn Beck, M. D. (Extracted from the Transactions of the Medical Society of the State of New York, vol. iv., 1839.

Professor Beck, with that industry in the collection and collocation of statistical *data* for which he is so distinguished, has brought together in the work before us, a numerous and interesting body of facts, relative to our medical schools. If some of them are not altogether correct, which we believe to be the case, the fault does not lie in the author but the nature of his task. Scattered over and owing allegiance to so many states of the union, fluctuating in their condition, too often prone to exaggeration in their reports, and irregular in the publication of them, our Medical Institutions, more, perhaps, than any others in the Union, set the historian at defiance ; and we are more surprised at Dr. Beck's general success in this undertaking, than at the omissions which it exhibits.

For the purpose of ascertaining the number of students in attendance on all the schools of the different States, at a period as near as possible to the present, we have constructed from Prof. Beck's work, supplying two or three omissions, the following table for 1838–'9:

University of Pennsylvania, - - -	402	Students.	
Jefferson Medical College, - - - -	230	"	
Transylvania University, - - - -	211	"	
Medical College of the State of South Carolina - - - - - - - - - -	151	"	
Louisville Medical Institute, Ky., - -	120	"	
Castleton Medical School, Vermont, -	115	"	
College of physicians, and surgeons of the Western District of New York, Fairfield, - - - - - - - - - - - -	114	"	
Cincinnati College, - - - - -	114	"	
Medical College of Ohio, - - - -	101	"	
College of physicians and surgeons of the State of New York, - - - - - -	96	"	
Harvard University, - - - - - -	85	"	
Berkshire Medical Institution, Ms., -	85	"	
Dartmouth College, - - - - - -	78	"	
Bowdoin College, Maine, - - - - -	77	"	
Geneva College, New York, - - - -	76	"	
Albany Medical College, New York, -	68	"	
Woodstock Medical School, Vermont, -	65	"	
University of Virginia, - - - - -	60	"	
Medical College of Georgia, - - - -	60	"	
Washington Medical College, Baltimore,	40	"	conjectural.
Medical Department of Hampden Sidney College, Richmond, Va., - - - -	48	"	
Yale College, - - - - - - -	46	"	
Willoughby University, Ohio, - - -	40	"	
Medical College, South Carolina, - -	29	"	
Medical College of Louisiana, - - -	25	"	"
Total:	2536		

Thus it will be perceived, that the twenty-five schools in operation in the winter of 1838–'9 had an average of 101.44 each—for the sake of round numbers, we shall say one hundred. Of the whole number of schools, eight were above this average, and seventeen below it. Six of the schools or less than one-third of the whole, had half the entire number of pupils, and the University of Pennsylvania alone, had one-sixth of the aggregate.

Taking the great regions of the Union separately, we find that the whole number of students in the eleven schools of

New England and New York was nine hundred and five—,in the five schools of the middle States, seven hundred and eighty,—in the four schools of the South, two hundred and sixty-five,—and in the five schools of the West, five hundred and eighty-six. Thus the eastern institutions fall, respectively, on an average, 17. 75 per cent. below the general average; the middle rise fifty-six above it; the southern fall 33. 75 per cent. below, and the western rise 17. 20 per cent. above. In the eastern division two elevenths only of the schools or eighteen per cent. of the group rise above the average; in the middle two fifths or forty per cent.; in the southern one fourth or twenty-five per cent., and in the western four-fifths or eighty per cent. Thus it results, that the proportional number of schools in the different regions, into which we have divided the whole country, which rise, in the number of their students, above the average of the whole, is as follows:—Western eighty per cent., Middle forty, Southern twenty-five, Eastern eighteen.

The rank of the different States which have established schools, will appear from the following table constructed from the *data* furnished by Dr. Beck:

1. Pennsylvania in - - -	2	schools,	632
2. New York in - - - -	4	do	354
3. Kentucky in - - - - -	2	do	331
4. Ohio in - - - - - - -	3	do	255
5. South Carolina in - - -	2	do	180
6. Vermont in - - - - - -	2	do	180
7. Massachusetts in - - - -	2	do	170
8. Virginia in - - - - - -	2	do	108
9. New Hampshire in - - -	1	do	78
10. Maine in - - - - - -	1	do	77
11. Georgia in - - - - - -	1	do	60
12. Connecticut in - - - -	1	do	46
13. Maryland in - - - - -	1	do	40
Louisiana in - - - - - -	1	do	25
			2536

Such was the order of the States in 1838–'9, but in 1839–'40, Kentucky had four hundred and sixty pupils, and was ahead of New York—in other words, was the second State in the Union, in the number of medical students in attendance on lectures in her colleges. Fourteen of the States have established medical schools; thirteen others, with two territories fast advancing to the dignity of States, remain to authorize similar institutions, and it may be confidently predicted, that many of them will do so—for this there is no *prophylactic*.

Let us turn our attention, for a moment, to the annual income which these establishments yield to their professors. Our estimate can be but an approximation to the truth as many *data* are wanting. In every medical school there are four classes of matriculated pupils, who do not pay. 1st. resident graduates. 2d. Students who had paid previously for two courses of lectures. 3d. Students who get their tickets on credit and never pay. 4th. Charity pupils. If we estimate each of the two former groups at five per cent. of the whole, and the two latter combined at ten per cent. they will amount to five hundred and seven; but as we believe some of the estimates too low, we shall assume five hundred and thirty-six, which deducted from twenty-five hundred and thirty-six, the whole number of pupils in the schools of the Union, leaves two thousand who pay. In many of our institutions, the ticket of each Professor is eight, ten, or twelve dollars, in some of them twenty, in the majority fifteen, we shall take fifteen as the average; some of the schools have eight Professorships, a greater number seven, a few only five; we shall not be far from the truth to average them at six; which multiplied by fifteen, gives ninety dollars, as the sum which each pupil pays to the professors of the school which

he attends. Now if we multiply two thousand by ninety we have one hundred and eighty thousand dollars as the aggregate of professional fees; which divided among one hundred and fifty, gives a quotient of twelve hundred dollars for each. The matriculation and graduation fees may be placed against the contingent expenses.

If the price of the ticket and the number of pupils, were the same in all our schools, the same sum, twelve hundred dollars, would be received by each Professor; but as more than one fourth of the pupils attend schools in which the price of the ticket is twenty dollars, it follows that the professors of those schools receive more than the average, while others receive less—when the number of students is the same. But there are great inequalities in the relative number of students in different schools, and, therefore the yearly income of many professors must fall far below twelve hundred dollars; not a few indeed, receive but five, four, or even three hundred dollars.

If we estimate all other expenditures of a student from the time he leaves home till he returns, as equal to what he pays for tuition, we have an aggregate of three hundred and sixty thousand dollars, from two thousand pupils; but to this, must be added, the sum expended, otherwise than for tickets, by five hundred and thirty-six students who do not pay for tuition, which gives a grand total of four hundred and fifty thousand four hundred and eighty dollars, expended annually, on the collegiate instruction of those who are to fill up the ranks of the profession. Such an appropriation ought to supply the country with an adequate number of well educated physicians and surgeons, but this seems not to be the fact, for we every where find practitioners, who have not attended lectures in any school.

Professor Beck has furnished *data* for other estimates, which would not be without interest, but we shall leave it with our readers to supply our omissions. D.

ART. XVIII.—*A Catalogue of Plants, Native and Naturalized, in the vicinity of Columbus, Ohio.* By WM. S. SULLIVANT, 1840, p. 63.

Why do so few of our young physicians, a vast majority of whom practise medicine in the country, devote themselves to the study of Botany? Can not nature, with her brilliant hues and balmy odors, captivate them? Do they not appreciate the fact, that new discoveries might be made, and their names handed down to posterity? Do they recognize no relations between Botany and Materia Medica? Between vegetable and animal Physiology? We have always marvelled, that, living in the depths of a wilderness but half subdued, so small a number of students of medicine, and of our young men of wealth and leisure generally, should turn to the cultivation of this delightful science. Thirty years ago, there was an excuse for this neglect, in the difficulty of obtaining suitable books—either elementary or practical; but that difficulty no longer exists; and for a few dollars, an adequate library may be obtained. The author of the pamphlet before us, is a gentleman of leisure, but not of laziness; and although not under the necessity of being active in business, is active—even laborious, in collecting and studying the plants of his neigh-

bourhood. Would that more of our sons possessed his taste.

Mr. Sullivant has arranged his plants on the natural method of Lindley, which may be studied in the "Introduction to the Natural System of Botany," of that distinguished Botanist, edited by Torrey and republished in New York. Of the two hundred and seventy-two natural orders in that system, the catalogue of Mr. S. embraces one hundred and twenty-seven, of which but two are exclusively exotic. This, considering the narrow limits of his locality, seems very remarkable; and depends, perhaps, first on its latitude, about 40° N., combining the climatorial influences of the temperate zone: and second, on its geological character. This is essentially diluvial, though there are tracts in which a compact secondary lime-stone shows itself. The diluvium has evidently been brought from the distant north, as much of it is primitive, and it may be traced towards the lakes; which, it is clear, once discharged great quantities of water over the summit levels of Ohio, Indiana, and Illinois.

Among the native genera of this catalogue, we notice more than forty, which embrace species, known to be medicinal or poisonous—if the distinction may be allowed. But how little do we know of the component parts, and action on the living body, of our native plants. As yet, a most superficial examination is all that the majority of them has received; and there the physicians of the United States seem to have stopped.

A few monographs, botanical, pharmaceutic and chemical, have, it is true, been put forth, but the work, has in fact, only been commenced. This is the inevitable effect, of the slight chemical and botanical training to which our students of medicine are subjected.

We trust that Mr. S. will continue his labours, gradually

extending his field of observation, and that many other floras will at no distant time, be the consequence of his example. It is only by their aid, that a general and complete catalogue of our plants can be made out. Such a work is much wanted, and we are happy to know that our confrere, Professor Short, is preparing such a work for the press. His personal researches for twenty-five years, have eminently prepared him for giving to the world a flora of the central parts of the United States.

We ought to state that Mr. S. is desirous of exchanging specimens, with other botanists: and that his brother Mr. John Sullivant, who is devoted to the study of the mineralogy and organic remains, of the west, will be pleased to make similar exchanges with other naturalists. D.

ART. XIX.—*The Philadelphia Practice of Midwifery.* By CHARLES D. MEIGS, M. D., Philadelphia, 1838. 1 vol. 8vo. pp. 370.

THE author of this unpretending little volume has been extensively and favorably known to the profession in this country since 1831, by his translation of Velpeau's Midwifery. He has been engaged for several years in the practice and teaching of obstetrics, and the work before us, we are informed in the dedication, is rather an expression of his own reflections and experience than a dry compilation of materials to be found every where in the obstetric library, and as such he

hopes it may be found serviceable to *students.* We do not doubt that his hope will be realized, and we venture to add that *practitioners*, who have enjoyed less favorable opportunities than the author for keeping up with the progress of the science, and acquiring a practical acquaintance with its important subjects, will derive from its perusal more precise views than they have hitherto possessed, and much useful information. Not that we are able to say that the author has exhibited much, if any originality, (for who, indeed, can lay claim to such distinction at this day, in a science which, as Velpeau expresses it in the introduction to the second edition of his "*Traite Complet de l' art des Accouchemens*," derives its essential principles from the laws of mechanics or is founded upon exact anatomy, giving to it a precision approaching the certainty of the mathematical sciences,) but he has shown himself familiarly acquainted with all that has been discovered or written on the subjects which he discusses. The easy, unaffected, yet chaste and correct style that is observed throughout the book, together with its freedom from learned parade, and the perfect candour and good faith that appear conspicuous on every page, impart to it a charm that is quite captivating, and force the conviction that we are communing with an accomplished teacher and a most estimable man. Such a work as the present, if we do not greatly err, was much needed in this country; the writings of Dr. Dewees, which occupy a tutelary rank in the library of almost every practitioner, excellent as they are in many respects, are liable to some very weighty objections. Among these, not the least is the space allotted to critical disquisitions of little practical moment, and a general diffusiveness, which, when employed upon trival matters, becomes irksome to the reader. This is a fault that does not attach to Dr. Meigs' book; in-

deed, it may be questioned if certain important subjects are not despatched with too great brevity, as, for example, puerperal convulsions. In the main, however, we think the author has succeeded in furnishing a compendium of obstetrics, which will be highly prized by students, in attendance on a course of lectures, and by practitioners, as a book of reference. Again, the system of Dr. Dewees, (but this is no fault of his,) contains some errors of doctrine and practice, which have been disclosed since he wrote. In embryology he adopts substantially the views of the Hunters, which have been implicitly received by almost all writers and teachers until a very recent period. It is but a short time, for example, since the correctness of John Hunter's account of the structure of the placenta was called in question, and yet, if any faith may be given to the most careful inquiries of Velpeau, Lee, and others, it was founded upon a delusion resulting from the manner in which the great physiologist attempted to investigate it. Certainly, if the placenta be examined in situ, and without doing violence to its structure by forcing injections of wax into it, nothing like a *maternal* and *fœtal* portion will be discovered, nor will large arteries be seen passing from the uterus into pretended cells in its substance. The placenta belongs, in truth, exclusively to the fœtal system, and is composed entirely of its bloodvessels, arteries and veins, connected by cellular tissue, and has no vascular connexion with the uterus, save by capillary vessels, and the existence of even these is doubted or denied by Velpeau. It may be regarded, then, as the capillary termination of the vascular system of the fœtus, in apposition with the uterus for the purpose of deriving from thence its supplies of nutriment and oxygen, or whatever is imparted in respiration.

The observations of Dr. Meigs go to confirm the truth of

this doctrine; he has had more than one opportunity of witnessing the detachment of the placenta, by peeling off the uterus, first laid open by an incision from it fundus to near the os uteri, and upon the most careful examination, with the eyes directed to the line where the separation was taking place, *not a single blood-vessel was discovered passing from the placenta to the womb, or from the womb to the placenta. The slightest force only was required to effect the detachment, and the adhesion was not near so firm as is often observed betwixt the skin and a good adhesive plaster.*

If it be asked of what utility is a knowledge of the true structure of the placenta; we answer that at least one curious phenomenon is erroneously explained, and one practical recommendation predicated upon the commonly received doctrine of Hunter. One of the sounds, *bruit de soufflet*, detected by obstetric auscultation, has been commonly supposed to be owing to the utero-placental circulation—the passage of the blood through large vessels between the uterus and placenta. This explanation, however, cannot be admitted for the bruit de soufflet has been known to persist after the death of the fœtus from procidence of the umbilical cord, and as long as forty-four hours after delivery. Moreover, we are assured that it has been discovered when pregnancy did not even exist, the vascular system of the uterus being in a state of morbid development and activity. The practical suggestion, to which we alluded, is that of Professor Hamilton, of Edinburg, who advises astringent injections, per vaginam, in flooding from separation of the placenta implanted over the os uteri. According to him, the ruptured utero-placental arteries are speedily retracted within the substance of the uterus, under favor of their peculiar spiral extremities, and soon cease to pour out blood; but the circulation still going

on between the uterus and the attached portion of the placenta, blood escapes from the detached portion, on account of the free communication between its imaginary cells. To restrain such a hemorrhage, one of his indications is, by styptics topically applied, to constringe or alter the texture of the separated portion of the placenta, that it may not allow the blood to escape. Such a practice, founded upon mistaken notions of the structure and economy of the placenta, it is to be apprehended is worse than useless; by removing coagula it will favor the continuance of hemorrhage.

The majority of his readers, we are sure, will feel obliged to Dr. Meigs for his attempts to appreciate the true value of a much used and abused agent in obstetrical practice—we mean the *tampon*. As a means of arresting uterine hemorrhage, occurring during pregnancy and parturition, it is frequently resorted to, because the discharge may seem to be too profuse to be trusted to medicinal treatment and to require something to mechanically obstruct its flow, and allow the blood to coagulate in the mouths of the bleeding vessels. Whoever employs the tampon, with such a vague apprehension of its powers and of the indications for its use, will often be disappointed in the effects which he expected to derive from it; for, the effusion of blood may be going on internally when its escape is effectually prevented, or the tampon, while it controls the hemorrhage, may provoke the premature expulsion of the fœtus. In all cases of *accidental* hemorrhage in the latter months of gestation, therefore, we concur with Dr. Meigs in the proscription of the tampon. We can have no security against fatal internal bleeding in such cases, because the retention of the blood necessarily increases the extent of the separation between the membranes and uterus, and this involves an aggravation of the hemorrhage. But in

unavoidable hemorrhage, we do not, with Dr. M., apprehend any such risk; nether reasoning nor observation, as far as we have been able to collect its testimony, justifies the belief that the placental attachment over the os uteri is in danger of being disrupted by the damming of the blood in the vagina, so as to allow its insinuation between the membranes and uterus, even to its fundus. In these alarming, though fortunately rare cases, we have a valuable auxiliary in the tampon; with it we can control the discharge, without fear of internal hemorrhage, until the condition of the os uteri will justify manual delivery. There is another reason why the tampon should be employed in *unavoidable*, and withheld in *accidental* hemorrhage, derived from one of its properties which Dr. Meigs has taken particular pains to describe, viz: its power of inducing or invigorating expulsive contractions of the uterus. The implantation of the placenta over the os uteri, as a general rule, precludes the hope of the pregnancy being preserved until term; as gestation advances and the expansion of the cervix progresses, the patient is liable, at longer or shorter intervals, to attacks of flooding, which will at last become so profuse as to leave no other alternative than delivery. Much of the safety of this measure will depend upon the manner in which it is conducted; *it should never be made an exclusively artificial process.* To forcibly dilate the os uteri, while it is rigid or but little inclined to yield, and to rudely pass the hand into the cavity of the uterus and extract the fœtus, while it evinces no disposition to co-operate by parturient contractions, would greatly magnify the danger, and cruelly aggravate the sufferings of the patient. The most judicious writers, insist, therefore, with great earnestness, on the propriety of refraining from delivery until the os uteri is dilated or easily dilatable, i. e. until the parturient process is in fact

instituted. Now, if the tampon, by its stimulation of the os uteri, does excite uterine contraction, of which we have no doubt, ought it not always to be used in these cases with this view, if there were no other, that the natural parturient agents may be awakened, and art be allowed only to follow and assist, instead of leading and performing the chief labor? Such an excitant of parturient action is the more to be desired in these critical cases, because it is well known that it is not spontaneously established commonly, until the patient has been brought into great peril from repeated losses of blood, and, if left alone, it is probable that she would sink from hemorrhage before the tardy powers of nature would come to her rescue. Hence, practitioners, who reject the tampon as a present means of restraining the effusion of blood, find themselves often obliged to deliver before the os uteri is sufficiently dilated or dilatable, to render the operation easy or safe, and, if much violence is done in gaining admission for the hand, the patient is no better off than if she had been left to nature.

Entertaining the views which have been thus succinctly expressed, with regard to the modus operandi of the tampon, we give our ready assent to the correctness of the doctrine that, "it is not a remedy for those cases in which any hope is yet entertained of saving the pregnancy;" but we contend for its applicability as well as utility in placenta prævia cases, because no such hope can be entertained. With this single exception we think Dr. Meigs' observations on the tampon as valuable as they will probable be novel to some of his readers. Certainly, no one who will dispassionately examine the subject, will think of using the tampon on account of hemorrhage in threatened abortion, as long as there is just ground of hope that the catastrophe can be averted; but if abortion be inevita-

ble it might become useful to employ it, even though the hemorrhage be not alarming, to facilitate the completion of the process.

It was not possible for the author, within the limits of so small a volume, to treat of all the diseases peculiar to females, or, perhaps, to do greater justice than he has to such as he has selected. His observations on some of the derangements of menstruation are good as far as they go; we regret that it was not compatible with his plan to dwell at greater length on the different forms of amenorrhea and to include, also, menorrhagia, even at the sacrifice of his disquisition on generation, a subject more speculative than practical, concerning which so much has been written and so little is known. Dr. Meigs remonstrates very forcibly against the injustice that has been done to derangements of the menstrual functions in the empirical treatment which they have received from physicians, as if they did not come within the purview of enlightened and rational pathology. Although Dr. Dewees has done much to correct this fault in American practitioners, it is to be feared that too many, who are careful to probe other diseases to the bottom, are still content to prescribe for amenorrhea, dysmenorrhea, and menorrhagia, *by name* or after the most superficial examination.

It is just as essential to successful practice in these affections to investigate the pathological state of the generative organs, and to attend to the state of the other organs, which can influence them by sympathy, as in any other class of diseases which the physician is called to combat. No fact in medicine is better established than that amenorrhea, for example, may be connected with precisely opposite morbid conditions of the uterus and general system; requiring in the one case antiphlogistic, and in the other tonic treatment. We do

not, however, subscribe to the doctrine of the constitutional origin of uterine affections, to the extent that Dr. Meigs seems inclined to go. This doctrine, which has the sanction of very high authority in this country as well as in Europe, may be stated in the language of Dr. Meigs: "It is not to be supposed that if a woman's constitution can be brought into healthful play in all other regards, she will be vicious or disordered in this instance of amenorrhea. I grant that sudden arrests or stoppage, may take place from slight and perhaps local causes; but I speak now of the instances of rebellious obstructions. I wish to impress the idea that a woman is not unhealthy because she fails to menstruate, but rather, that she fails to menstruate because she is unhealthy." Now, what evidence is there that the uterine organs enjoy such an immunity from the direct disturbance of morbid causes. We should be greatly amazed were it asserted that, if healthful vigour be imparted to a woman's constitution, disease would be eradicated from any other organ that might happen to be diseased in its functions. Let us suppose, for example, that the lungs are the seat of disease, and that there is morbid or suppressed secretion of the bronchial mucous membrane—will remedies addressed alone to the constitution always reach or overcome the disease? We opine not. What proof have we that the uterus is more amenable to constitutional sanative influences than the lungs? But the supposition is that the uterus is not really diseased—that it only complains on account of general bad health, and that being remedied, it resumes its function as a matter of course. Now, while we admit that a woman may cease to menstruate because she is unhealthy, we stoutly maintain that far more frequently she loses her health in consequence of ceasing to menstruate. We do not mean that there is any wonderful health-preserv-

ing efficacy in the periodical sanguineous evacuation, or that the immediate or remote constitutional derangements attendant on amenorrhea are produced by the suppression in itself considered; but the torpor, irritation, or inflammation of the uterus, which is the real disease, undermines the general health through the medium of the numerous and important sympathies, by which it is so closely connected with the other viscera of the system.

The subject of labor, which should, of course, be the burden of a treatise on the practice of midwifery, is very fully and satisfactorily discussed by Dr. Meigs. His account of it as a physiological act is generally accurate, and his directions for its conduct are such as the most enlightened experience must sanction. The student cannot be too earnestly exhorted to make himself thoroughly conversant with the physiology of labor, and especially its mechanism, as by such knowledge alone can he be prepared to comprehend or surmount the obstacles that more frequently embarrass it, than ignorant or indolent practitioners are willing to allow. When labor is retarded, how often do we see such accoucheurs console themselves for the total darkness in which they are enveloped by the comfortable prophecy that nature will at last prevail, when by rendering, it may by the slight assistance that is needed, the patient might have been saved hours of present suffering and the future risk, which such protraction involves. We have already expressed the opinion that such a reinforcement as Dr. Meigs' book has furnished to the standard authority in this country, was wanted, because it corrects certain errors of doctrine and practice. In further justification of this opinion, we may here allude to the management of face presentations. According to Dr. Dewees and most of the English writers, these presentations are to be regarded as

preternatural, and treated by bringing down the vertex, by the crotchet or forceps. Now, although manual delivery should not be shrunk from, when absolutely required, it is always to be considered as an operation that is painful and not free from danger, especially in the hands of an inexperienced or unskilful practitioner, and as such it should be avoided whenever it is possible, consistently with the safety of the patient. Attempts to push up the face to have it replaced by the vertex, as the records of writers who have pursued such practice show, have greatly bruised and disfigured the features, stripped off the skin, gouged the eyes, &c., to such a degree, that the substitution of the crotchet would have been merciful. The recital of such shocking barbarities makes us shudder, even though we might be convinced of the necessity of their commission; but when we come to learn by painful experience that they were unnecessary—that face presentations fall within the pale of natural labor and are but little less favorable, for mother and child, then vertex positions, while we rejoice in the knowledge, we grieve to mark the bloody tracks of our art by which it was so slowly acquired.

Dr. Meigs is clearly of opinion that face cases may well be included among the natural labors, except some failure in the powers of the woman should cause us to convert them into preternatural ones, by obliging us to turn and deliver by the feet; to restore the vertex by some serious operation; or to extract with the forceps. For the establishment of this among the maxims of obstetrics, science and humanity are chiefly indebted to Madame Lachapelle, the midwife-in-chief of the Paris Maternite; it has since been received and defended by the greatest number of the French writers, who have adduced in its defence an amouut of evidence that is wholly irresistible. According to the observations of many of these,

the child was expelled by the unaided powers of nature in a larger proportion of face presentations than was witnessed by Madame Lachapelle; in the practice of some of them the assistance of art was not found necessary in a single case.

Such, also, was the experience of Dr. Collins in the Dublin Lying-in Hospital, wherein thirty-three cases of face presentations occurred during his mastership; four of the children were still-born, *all were delivered without assistance.*

With the chapter on "presentation of the pelvic extremity of the fœtus," we are much pleased, with the exception of an item of practice, peculiar to the author, we believe, and of questionable propriety, to say the least. It is well known that the most critical time in these labors, as regards the safety of the child, is when the head comes to be engaged in the pelvis. Should any considerable delay arise in this stage of its expulsion, the child will be in imminent danger of perishing from asphyxia. To guard against this, it is Dr. Meigs' unfailing custom to order his forceps to be placed within reach in every case of breech or footling labors, in order to be enabled to extract the head without delay, and he is persuaded that the consequence of this care has been the saving of several lives that must have been lost but for this precaution. This practice, we think, cannot be commended to general imitation; a resort to instruments is surely unnecessary in a majority of these cases, and it is difficult, in a moment of anxiety and alarm, to resist the temptation to employ them if they be at hand. We should rather say to young accoucheurs at least, let your instruments be far from you in managing breech presentations, lest you be tempted to potter with them to the detriment of the mother without benefit to the child. Besides, we are persuaded that with a little adroitness, the requisite degree of force can be applied on the superior maxil-

liary bone and base of the occiput, to extract the head without the slightest risk of injury to the child; and until this can be deliberately accomplished, asphyxia may be prevented by pressing back the perineum to admit air to the child's mouth, in the manner recommended by Dr. Meigs. By this expedient the child may be enabled to breath and cry for a longer period, (Dr. Meigs says for 20 or 25 minutes,) than the head will be detained in the pelvis once in fifty cases, if the previous management have been judicious; i. e. if the expulsion of the body be committed to the natural powers, and the head be suffered to come down into the pelvis with the proper degree of flexion, and with the face towards the hollow of the sacrum.

But we must bring this rambling notice to a close, having already extended it to greater length than we intended; not that we grudge Dr. Meigs' book the space we have allowed it—we honestly think it deserving of more—but it is within the digits and purses of all our readers, and doubt not they will examine it for themselves. H. M.

Selections from American and Foreign Journals.

A Monograph on Excisions, translated from the French of J. F. Malgaigne, for the Western Journal of Medicine and Surgery, by Benjamin Dennis, M. D., of Cincinnati.

General observations on Excisions.

Under this title we shall comprehend not only the ablation of the articular extremities of the bones, but also the excision of the long pieces in their continuity, and finally the entire extirpation of certain bones, without amputation of the soft parts.

Before we proceed further, let us lay down some general precepts.

1. It is necessary before commencing the operation, to have a clear perception of the anatomical derangements, which render it much more difficult on the living than on the dead subject; these are, the swelling of the bones; sometimes their union; induration and engorgement of the soft parts, and the difficulty of recognizing the nerves and blood-vessels, which must be carefully avoided.

Let the operator, says the younger Moreau, proceed with composure and tranquillity of mind: surgery requires prudence and is devoid of timidity.

2. Besides the ordinary dressing apparatus, we must have at hand, the excision forceps, a gouge, a mallet, and saws of different sizes and forms, so that we may not be taken unawares should it become necessary to change any of them during the operation.

3. An assistant should be in readiness, with a good supply of water and fine sponges, to wipe away the blood, so that the color of the bones may be recognized.

4. In making the external incisions, our object should be, to procure a sufficient and commodious passage to the bone, without unnecessarily injuring the muscles and tendons.

When we wish to remove completely a long bone, should a simple longitudinal incision not suffice, we may, as a general

proposition, add a small perpendicular incision to each extremity of the first, in order to obtain a quadrilateral flap.

5. It is necessary to avoid carefully the division of the nervous, venous, and arterial trunks.

6. The bone being exposed, we should probe it with the gouge or a pointed stylet for the purpose of ascertaining the depth of the caries.

7. Before employing the saw, we should carefully protect the soft parts from the action of that instrument, by means of compresses or by passing the handle of a bistoury between them and the saw.

8. The first law is to remove completely all that portion of the bone which is carious. To this all the others are subordinate.

9. The second law is to save as far as possible the tendons and muscular attachments. Nevertheless the carious portion of the bone should be entirely removed.

The slightest layer of compact substance will be sufficient to preserve the attachment of the muscles.

10. When an articular surface is composed of several bones, we should generally cut off the pieces at the same level, in order to avoid obliquity of the section, which would force the limb to one side or the other. This rule is particularly important in relation to the articulations of the wrist and ancle.

11. If the excision is practised in the continuity of a long bone, or if we wish to extract the bone entirely, we should preserve as much of the periosteum as the malady will permit. In children it furnishes the matter for a new bone, and in adults it serves as the basis of a fibrous tissue, which replaces to a certain extent, the old bone.

12. Having performed the operation, the lips of the wound are to be brought into contact, and retained in that state by adhesive strips and the interrupted suture.

13. In operating on the articulations of the inferior extremities, the bones should be brought together, and the limb extended; but when the operation is performed on the superior extremities, the limb should be semi-flexed, leaving the bones slightly separated, in order to obtain, if possible, an artificial joint.

OF EXCISIONS OF PARTICULAR BONES.

We shall treat successively of partial or complete excisions of the bones of the superior extremities then of those of the inferior, and finally of the bones of the trunk.

Art. I.—Excision of the Bones of the Superior Extremities.

1. *Excision of the Metacarpo-Phalangeal Articulation.*

In performing this operation the condition of the case may render necessary the removal either of the head of the metacarpal bone, the extremity of the phalanx or both together.

The operation should be commenced by making an oblique incision, beginning at the middle of the dorsal face of the metacarpal bone, about half an inch beyond the point where we wish to apply the saw, and terminating at the commissure of the finger; a second incision should be made commencing at the same point and ending at the other commissure; circumscribing thus a flap in the shape of the letter v with its base downwards. This flap should be dissected up and turned backwards; the tendon of the extensor, thus brought into view, removed; and the interosseous muscles on each side of the bone, detached. The articulation should then be opened; and the lateral and anterior ligaments cautiously divided, avoiding all injury to the flexor tendons. After which the phalanx must be dislocated backwards; and having carefully freed the diseased portion of bone from the soft parts, and introduced behind it a piece of wood or pasteboard, the operation should be finished by the application of the saw. The excision of the head of the metacarpal bone is conducted in the same manner.

If the excision is to be practised on the articulation of the thumb, the index, or the little finger, the flap should be made on the free side of the finger, with its base above or below as the state of the case may require. By adopting this method, we shall not be compelled to push the tendon of the extensor muscle much out of the way on account of the saw.

M. Bobe once excised the head of the first phalanx of the thumb, in a case of irreducible luxation; this circumstance removed many of the difficulties attending the operation.

II.—Extraction of the first phalanx.

Although, this operation has never been attempted, nor even proposed, yet it appears to be sometimes indicated on the thumb. M. Velpeau has seen the smaller phalanx of this finger preserve its movements after the extraction of fragments of the first phalanx affected with necrosis.

In conducting this operation, we should make the incision on the radial side of the thumb; remove the soft parts cautiously in order to save as much of the periosteum as possible;

tenderly destroy the metacarpal articulation; and dislocate the bone outwards. The rest will be easy.

III.—Extraction of the metacarpal bone.

Proposed by M. Troccon in 1816, and afterwards performed with success, by M. Roux and M. Blandin.

This operation is performed by making an incision along the radial side of the bone, extending about half an inch beyond each of its articulations; the skin and the extensor tendon of its dorsal face and the muscles of its palmar face should be cautiously detached. An assistant should forcibly separate the lips of the wound; whilst the surgeon carries the point of the bistoury on the external side of the carpal articulation; divides the tendon of the abductor longus, which is attached to the metacarpal bone; and destroys the articulation. The bone should then be luxated outwards; and the bistoury carried along its internal face, in order to separate the flesh from it completely. Finally its articulation with the phalanx should be destroyed, by dividing successively the internal, external, and anterior lateral ligaments.

The radial artery can be easily avoided; and the rest secured by the application of the ligature. The lips of the wound should be retained in apposition by the aid of lint or compresses; and union by the first intention induced. The palm of the hand should be so dressed, that the thumb may be maintained in its natural position. After recovery, the finger is contracted and at first incapable of any use; however, it will gradually acquire all its natural movements.

If the first incision should not suffice, another should be added to each of its extremities, according to the general method indicated.

IV.—Extraction of the other metacarpal bones.

The metacarpal bone of the index finger, can be easily extracted by means of an incision on its external surface: and that of the little finger by the aid of an incision on its external side. But the probable shortening of these fingers will leave a deformity as great perhaps, as that produced by their amputation, and will, without doubt, lessen the general force of the hand.

A different method should be adopted for the extraction of the metacarpal bones corresponding to the middle and ring fingers. The incision should be made along the dorsal face of the bone, by the side of the extensor tendon; (which

must be carefully protected) and the disarticulation begun at the joint of the phalanx. These two fingers can be easily maintained in their natural positions, by their connection with the neighboring ones.

V.—Extirpation of the bones of the carpus.

Sir A. Cooper extracted with success the os scaphoides in a case of luxation of that bone, occasioned by pressure from a wool-carding machine. He lays down this principle, that, when, by the effect of an analogous cause, one or two bones of the carpus are displaced, extraction may be practised; but, if the injury be greater, amputation is necessary.

VI.—Excision of the articulation of the wrist.

Method of M. Roux.—M. Roux makes, along the antero-external part of the radius and antero-internal margin of the ulna, without interfering with the vessels and nerves of the fore-arm, two longitudinal incisions terminating inferiorly on a level with the joint of the wrist; also, two transverse incisions extending backwards from the inferior part of the fore-arm, to the sides of the bundle of the extensor tendons at the posterior surface of the articulation. Two flaps in the shape of the letter V were thus obtained, which he dissected up, carefully avoiding the tendons which play in the dorsal grooves of the bones; these were then held out of the way by a compress, spatula, or piece of paste-board; he then applied the saw to the ulna; an assistant forcibly bent the hand outwards in order to aid the operator in separating the interosseous attachments with the radius and carpus. Finally, the hand was forced inwards, which rendered it easy, either to saw the radius before or after the disarticulation. The wound thus made was large enough to expose the surface of the carpal bones, which enabled him to remove as many of them as the necessity of the case required.

M. Dubled made a single longitudinal incision on the side of each bone, commencing always with the ulna; forced the hand inwards; destroyed the ulnar articulation; and dislocated the bone, before excising it. He then passed to the radius which he excised in the same manner.

M. Velpeau on the contrary, completely unites the longitudinal incisions, by means of a transverse one on the back of the wrist, in order to procure a quadrilateral flap with its base downwards; which he dissects up and turns back on the hand. Having protected the tendons as much as possible, he

detaches the flesh from the palmar face of the bones; passes under the latter a protecting plate; and saws both bones at once. He then turns them back, separating them from the bones of the carpus.

Appreciation.—There is this in common in these three methods that one may be easily converted into the other during the same operation. It is best, however, to commence with the simple incisions of M. Dubled, as they certainly afford the happiest results. If the operation be difficult, we may add to these the small transverse incisions of M. Roux; and when the case presents unusual embarrassments we may unite the two smaller flaps into one, by a complete transverse incision after the manner of M. Velpeau. It is a matter of indifference whether the flap has its base above or below.

It is sometimes necessary, in fractures of the radius accompanied with luxation of the ulna, to excise the extremity of the latter. The operation in this case is generally facilitated by the displacement; but we must be careful that the ulna retains the same length with the fractured radius, otherwise the hand will incline to the side of the shorter bone.

VII.—Extirpation of the Radius.

This operation was successfully practiced in 1825 by Dr. Butt of Virginia.

The arm is to be placed in a semi-flexed position, and a longitudinal incision made along the antero-external side of the radius, down to the bone. The integuments should then be detached, and protected from injury by passing behind the bone a canula or the handle of the scalpel; after which the bone should be separated with the ordinary, or chain saw.

It will then be necessary only, to separate each of the fragments from the flesh; and sever them from their articulations, carefully avoiding, in the mean time, the blood-vessels and nerves.

In this operation particularly, the terminal incisions, advised by M. Roux for the wrist, and by M. Moreau for the elbow, would be of evident utility.

VIII.—Excision of the articulation of the elbow.

We will barely mention here that the method of Park consisted in making, along the middle of the posterior surface of the arm, a longitudinal incision, which was, when necessary, converted into a crucial one. This method is now entirely abandoned.

Method of Moreau.—In performing the operation of Moreau, the patient should be placed on his abdomen, upon a table covered with a matrass, in such a manner, that the arm resting upon the side of the table presents to the operator the posterior and internal part of the articulation; and the tourniquet applied round the superior third of the arm, and confided to an intelligent assistant.

The arm being half flexed; the surgeon with a dissecting-scalpel or a bistoury, makes an incision parallel with the sharp edge or spine of the inner condyle of the humerus, commencing about two inches above its tuberosity, and extending as far down as the articulation. A second incision, of the same length, should be made along the spine, of the external condyle, and be connected with the first by a third, which should be carried transversely through the skin and the tendon of the triceps extensor cubiti, immediately above the olceranon. The quadrilateral flap thus formed is to be raised from below upwards, and held out of the way by an assistant.

The soft parts which adhere to the anterior part of the humerus, opposite the point where we wish to apply the saw, should then be detached and protected from injury by passing beneath the bone the handle of a scalpel; after which the diseased part should be carefully sawed off and the articulation destroyed. We then pass to the bones of the fore-arm.

The external lateral incision should be continued along the radius as far as necessary; and after protecting the soft parts adjacent to the head of that bone, it should be excised, endeavoring, at the same time, to preserve, as far as possible, all that portion which gives attachment to the biceps flexor cubiti. We should then lay bare the ulna, by prolonging the internal lateral incision downwards. The flap which results should be turned down, the soft part protected; and the bone divided by the application of the saw.

The tourniquet should now be relaxed; the arteries secured; the lips of the flaps brought in contact by a few sutures, and the limb placed in a state of semi-flexion.

In order to avoid injuring the ulnar nerve, Dupuytren recommends dividing the sheath in which it is enveloped, and bringing it in front of the internal condyle of the humerus, where it is to be held by an assistant, during the section of that bone.

Others have advised making the two flaps first, and even excising the bones of the fore-arm without disarticulating the fragment of the humerus. It is preferable, however, to pursue the method of Moreau, in order to ascertain by inspec-

tion of the articular surface, whether it be necessary to excise these two bones, and the extent of the incision required.

IX.—Excision of the scapula-humeral articulation.

Several different methods have been proposed for this operation, all of which may be reduced to two principal ones, the simple incision and the formation of a flap.

The former is more particularly applicable in cases of comminuted fractures of the humerus, in consequence of gunshot wounds, where the simple enlargement of the wound does not admit of the extraction of all the osseus fragments.

The latter or the flap opertion, is then generally preferable. M. Moreau makes a quadrilateral flap with its base downwards; Manne, with its base upwards; Sabatier, a triangular flap with its base above; and Monel, a semi-lunar flap with a superior base. Mr. Syme makes first a longitudinal incision of four inches in length on the middle of the deltoid muscle, and afterwards a shorter one beginning at its inferior extremity and running up behind the posterior part of the arm-pit. All these methods could be applied here, provided we limited ourselves to the formation of a single flap.

It appears evident to us, in the first place that the joint should be attacked on the side; and in the second, that the parts should be widely opened, so that we may be ready to extend the operation, should the scapula participate in the caries. With these views the lateral and posterior flap, executed after the manner of M. Lesfranc, is incontestibly superior to all others.

Nothing can be more simple than the operation after the flap is once made. Tne next thing to be done is to cut away the synovial capsule, and after having protected the soft parts with a compress, the head of the bone should be forced outwards and sawed off. Every portion of the synovial capsule should be removed, otherwise the remaining shreds would retard the recovery of the wound.

If the caries extend to the scapula, every particle of it should be removed with the gouge and mallet.

X.—Excision of the Clavicle.

1. *Excision of the Scapular Extremity.*

This operation was practised by M. Velpeau for necrosis of the external third of the bone. He commenced by making a crucial incision, the two branches of which were four inches

in length; then dissected the flaps; divided the acromio-clavicular ligaments, and the fasciæ of the deltoid and trapezius muscles; and by the aid of a piece of wood thrust in the articulation by way of a lever, raised the diseased portion of the bone and detached it from the healthy parts.

He thought that he would succeed still better, by the help of an incision parallel with the clavicle and made some lines beneath it, terminating at the acromion process and by that of another smaller one, made at a right angle with this extremity, circumscribing thus a triangular flap. The ordinary or chain saw would answer equally well in this proceeding. In all cases, where the saw is to be applied near the middle of the bone, the operation is rendered perilous, in consequence of the vicinity of the axillary vessels.

2. *Excision of the Sternal Extremity.*

This operation was performed in a very particular case, by Doctor Davie of England.

A young lady was affected with a distortion of the vertebral column, to such an extent, that the left scapula was forced inwards and forwards, and the clavicle, gradually obeying the impulse, quitted the cavity of the sternum and was carried back on the œsophagus, pressing upon it with such force, that deglutition could only be performed with the greatest difficulty, the life of the patient being daily threatened by the emaciation which ensued.

Every thing being prepared for the operation, Dr. Davie made on the extremity of the displaced bone, following its axis, an incision of two or three inches in length; divided the ligaments as far as the bistoury could reach; glided underneath the bone a bit of soft leather; then, with the flexible saw of Scultelus divided it about an inch from its articular surface. The bone still remaining attached to the sternum by the interarticular ligament; it became necessary to tear this ligament away, which was accomplished by means of the handle of the bistoury, introduced between the two bones, by way of a lever, and then removed the fragment.

The wound was healed without accident; deglutition re-established; the patient was soon restored to health, and was still living six years after the operation.

3. *Complete extraction of the Clavicle.*

This operation was practised with entire success by Dr. Mott, of New York, in a case of osteo-sarcoma. The tumour

was as large as the two hands closed, and extended upwards nearly to the hyoid bone, and the angle of the jaw. He commenced by making, beneath the tumour, a semilunar incision, having its convexity downwards, extending from one articulation to the other; and then another from the acromion to the external side of the internal jugular vein; cut away the platysma myoid, and a portion of the trapezius muscles; passed a grooved director under the bone near the acromion; and with the chain saw completed the first section. Not being able still to remove the tumour, he joined the two incisions on the inside; applied two ligatures to the external jugular vein, and divided it in the space between them; cut away also the external portion of the mastoid muscle; tied and divided the internal jugular vein; and separated with the handle of the scalpel, the sub-clavian vein and the thoracic duct from the diseased tissues. He then returned below; divided the pectoralis major; the costo-clavicular ligament, together with the sub-clavian muscles; and terminated finally, the disarticulation of the bone, near the sternum. More than forty ligatures were applied. The wound was nearly healed in six weeks, and by means of an appropriate machine, supplying the place of the clavicle, the patient was enabled to execute nearly all the movements of the arm.

It appears to us that the method of three incisions circumscribing a quadrilateral flap, would be preferable here even if we should be obliged to cut off a portion of the integuments afterwards.

XI.—Excision of the Scapula.

M. Janson removed a large portion of this bone on account of a tumour which occupied it.

He circumscribed the tumour by two semi-elliptical incisions, sparing the integuments as much as possible; dissected the lips of the wound; detached the tumour and the bone on all sides as far as the sub-scapular fossa; cut away the attachments of the trapezius, the supra-spinatus and the infra-spinatus muscles, and discovering that the portion of the bone beneath the spine was sound, he separated from it, with the saw the whole of the diseased portion, preserving thus the articulation of the arm. Another incision was yet necessary to enable him to expose and remove the tumour. The wound which resulted was six inches in breadth by nine in length. The patient retained the movements of the arm in the glenoid cavity.

Art. II.—Excision of the bones of the inferior extremities.

1. *Excision of the anterior extremity of the first metatarsal bone.*

Excision is never practised on the phalangeal or the heads of the metatarsal bones of the four last toes; amputation is in these cases far preferable. But with regard to the first M. Blandin remarks, that when the phalanx can be saved, the foot preserves a point d'appui far more solid than it would otherwise have.

In performing the operation the surgeon should make the flap on the inside of the toe with its base posteriorly; denude the bone at the point where he wishes to divide it; apply the saw making the section perpendicularly to the axis of the bone; detach the flesh; and finish by separating it from the phalanx.

We could certainly obtain a more simple wound by means of a longitudinal incision, with a perpendicular one added to each of its extremities.

Complete extirpation has also been proposed. Already has Morean removed the entire bone in a case of caries; and M. Barbier of Valde-Grace, extracted it subsequent to luxation. Both of these operations succeeded perfectly.

II. Extraction and excision of the bones of the tarsus.

As it is difficult to judge to what point the operation must be carried, no precise rules can be established. The method of the elder Moreau in a case of extensive caries is herewith subjoined.

There was an ulcer of an inch in diameter opposite the cuboid bone, and another between the third and fourth metatarsal bones, proceeding from an incision made some days previously on account of an abscess. On examination the director penetrated the interior of the os cuboides.

The operator made an incision on the external side of the foot, from the posterior third of the fifth metatarsal bone, to a point above the anterior apophysis of the os calcis, traversing at the same time the ulcer. The incision previously made in opening the abscess, appearing sufficient, it was only necessary to unite them to form a quadrilateral flap—this he lifted up and caused to be held out of the way by an assistant. The diseased bones were thus exposed; and it was found necessary to remove the cuboid, the third cuneiforme,

the posterior extremity of the fourth metatarsal, the internal edge of the extremity of the fifth, and lastly the articular surface by which the os calcis unites itself to the cuboid. The tendon of the peroneus longus was preserved, and lay exposed at the bottom of the wound. The flap was afterwards brought down and retained by means of the suture. The extirpated bones were soon replaced by a substance which in time became ossified. As soon as circumstances would permit the patient was directed to walk freely with crutches; the foot recovered its natural form and even all its movements.

These operations are not very difficult, as the bones are easily exposed to view. The principal embarrassment is to disengage them from their neighbors; this we may accomplish by employing alternately the gouge and the bistoury.

Caries of the os calcis is more serious. If we remove its inferior face, the weight of the body would be deprived of its support, and the patient be obliged to walk on the toes, until he could accustom himself to the use of an artificial heel. If it should be necessary to destroy the attachment of the tendo-achilles, still greater inconvenience would result, and it would be preferable to amputate the limbs.

The younger Moreau excised a part of the os calcis. He excavated all the interior of the bone, taking care at the same time to preserve the insertion of the tendo-achilles. The patient soon recovered, but at first walked only on the toes.

Afterwards he extirpated the astragalus in a case of luxation of this bone across the integuments: here the state of the parts can alone guide the surgeon. After this operation the motions of the ankle are generally destroyed. He cites however a case where the movements were preserved.

III. Excision of the tibio-tarsal articulation.

In performing this operation two incisions are to be made in the inferior part of the leg: one longitudinal, extending from the inferior part of the maleolus to within three or four inches above that eminence; the other transverse, commencing at the base of the former and extending as far as the insertion of the peroneus tertius. Having done this the operator makes two other incisions on the internal side, of which one is to be longitudinal and similar to that on the external side; the other transverse, commencing at the preceding and extending as far as the tendon of the tibialis anticus. The longitudinal incisions should extend as far as the bones, while the transverse should only include the integuments.

When the flap is dissected up, the fibula should be separated up, the fibula should be separated from the tendons by which it is surrounded, and cut away with the chisel. The same is to be done with the maleolus externus and the bones of the tarsus. When this has been accomplished, the tibia should be isolated from the soft parts, and a wooden spatula passed under its posterior surface. The surgeon then introduces the narrow blade of a saw under the anterior muscles, secures it to its handle, divides the bone from before backwards, and separates the diseased parts from the tarsus by turning the foot outwards. If a portion of the astragalus be affected, it may by this means be readily removed.

After the operation is completed, the flaps should be maintained in contact by a few sutures, and the limb should be kept perfectly at rest, by means of two lateral splinters and a foot board.

IV.— Extraction of the fibula.

This operation was proposed by Desault, and since executed, it is said, by a patient after himself. It has also been successfully practised by M. Sentin, in the following manner:

In order to ascertain how far the malady, which he presumed to be necrosis, had extended itself; he made along the inferior part of the bone an incision of three inches in length, passing over an ulcer which was there developed. The bone being thus exposed, he perceived that the disease extended higher up; consequently he prolonged the incision as far as the superior extremity of the fibula; at which point, it appeared to be sound. Extraction was then instantly decided upon. He detached, with no little difficulty, the soft parts which were gangrenous in the asperities of the bone; and separated with a trephine, the diseased diaphysis from the sound head. Having done this, he interposed between the bone and the soft parts a narrow riband, which he gradually glided downwards to its base; separated with a curved saw all the diseased diaphysis from the external malleolus; and completed the section by the help of the gouge. It was necessary to tie a number of arteries, among them the posterior tibial; cut the external popliteal nerve, and finally, to apply the cautery to the tibia which participated slightly in the disease.

The cauterization was completed in about two months. The limb was frequently moved to prevent anchylosis, and at the expiration of four months, the patient could support himself nearly as firmly on this leg as on the other.

V.—Excision of the Femero-tibial Articulation.

Four principal methods have been proposed for the performance of this operation.

The method of Park consisted in making a crucial incision with a transverse branch passing above the patella. It is now generally rejected.

Method of the elder Moreau.—This method consists in making a longitudinal incision on each side of the joint, between the vasti and flexor muscles of the leg, commencing about two inches above the condyle of the femur and terminating at the upper part of the tibia. These two incisions are to be connected by a third, which is to pass transversely below the patilla, and extend as far as the bone. The flap which is thus formed is then to be raised, the patella dissected out, and the condyles of the femur, being separated from the surrounding parts, are to be sawn through.

If the superior extremities of the bones of the leg participate in the affection, the diseased parts should be carefully excised, by prolonging the lateral incisions.

Method of M. M. Sanson and Begin.—They commenced by making a transverse incision below the patella, penetrating the articulation; then passed to the lateral incisions. The result is the same as that by the method of Moreau.

Method of M. Syme.—The leg being flexed at a right angle on the thigh, the operator makes, under the patella, a transverse incision slightly curved with its convexity inferiorly, which is to open the articulation and extend to the lateral ligaments. He then makes another above the patella, having its convexity superiorly, uniting its two extremities with those of the first: thus circumscribing this bone in an elliptical flap which he removes. Having done this, he destroys first the lateral and then the posterior ligaments; detaches the soft parts from the ends of the femur and tibia; protects them from injury by means of a compress; and saws off the ends of the bones. This is assuredly the most expeditious and the most simple method; and is that which M. Lesfranco teaches in his course.

After the operation the ends of the bones are to be placed in contact in order to obtain their consolidation; the lips of the wound united by sutures, and the limb put in a suitable apparatus. The elder Moreau uses a horizontal plane provided with sides of equal height and furnished with cushions. It is an imitation of the "*planchette hypanarthecique.*"

VI.—Excision of the Coxo-femoral Articulation.

White was the first who proposed as well as the first who attempted the excision of the superior extremity of the femur. He removed four inches of this bone, by means of a simple longitudinal incision. The subject of the operation was a young man 14 years of age, who was still living eight years afterwards. Recently, M. Seutin removed six inches of the femur from a soldier, in consequence of a compound fracture. He differed from White by making a longitudinal incision from the iliac crest to a point three inches below the great trochanter. The patient died on the ninth day.

If the surgeon is willing to attempt the excision of this articulation, it may be preferable to make on the external side of the joint a triangular flap (Rosi,) or a semi-lunar flap, having its convexity inferiorly, extending from the iliac spine to the sciatic tuberosity (Velpeau,) or in fine any of the varieties of external flap proposed for the coxo-femoral disarticulation.

Art. III.—Excision of the bones of the trunk.

1.—*Excision of the Bones of the Head.*

Some cases are reported where it was necessary to excise nearly the whole vault of the cranium; the rules do not differ from those for trepanning, aided by the action of the saw.

II.—Excision and entire ablation of the superior maxillary bone.

Many surgeons have attempted the excision of portions of this bone, and in these cases the state of the diseased parts alone governed the operation. The idea of its complete ablation, as well as the execution was reserved for M. Gansoul of Lyons.

Before we proceed with the detail of the operation, let us examine the anatomy of parts. In examining the face of a skeleton, we find that the superior maxillary is fixed to the other bones of the face by three principal points only:

1st. By its superior apophysis and its articulation with the unguiform and ethmoid bones.

2d. By the orbitar edge of the malar bone as far as the spheno-maxillary fossa.

3d. By the articulation between the maxillary and palatal bones.

There is a fourth point of contact posteriorly with the pterygoid apophysis of the sphenoid, and with the palatine bone; but which yields easily by simply depressing the maxillary bone towards the interior of the mouth. In assailing these different points we encounter no large vessels; the trunk of the internal maxillary may be avoided without difficulty, and in all cases tied after the removal of the bone; moreover in case of unforeseen hemorrhage during the operation, we have the resource of compressing the carotid artery. As for the nerves, it will be necessary to divide but a single trunk of any importance, namely, the superior maxillary; and it is easy to make a section of this before luxating the bone, and thus prevent any injury from stretching.

Gensoul's method of operating is as follows:—The patient being seated upon a chair a little elevated, with the head thrown slightly backwards and supported on the breast of an assistant, the operator makes first a vertical incision extending from the greater angle of the eye to the upper lip, which he divides down to the level of the canine tooth; from the middle of this incision, or rather a little nearer the base of the nose, he makes a second, prolonging it to within four lines of the lobule of the ear; then a third, which descends from a point about five or six lines outside of the external orbitar angle, to the termination of the second (near the ear.) A quadrilateral flap is thus formed which he dissects up and turns back upon the forehead.

The bone being thus exposed he commences with the aid of the chisel and mallet, the section of the external orbitar angle near the suture uniting the malar bone with the external orbitar process of the frontal; and next divides the zygomatic process of the malar bone. Proceeding to the internal and superior attachment, he applies a large chisel beneath the internal angle of the eye, causing it to traverse the inferior part of the unguiforme bone and the orbitar face of the ethmoid. He separates in like manner the superior (ascending) process from the corresponding nasal bone; detaches with a bistoury the soft parts which unite the wing of the nose to the upper jaw; draws the first incisor from the bone on which he is operating and introduces a chisel into the mouth, and in the act of withdrawing it, insinuates it between the two maxillary bones, thus, easily and quickly effecting their separation. Finally he divides the superior maxillary nerve; destroys the adhesions of the pterygoid apophysis, and carries the chisel flatly between the soft parts and the orbitar plate far enough to divide completely the

nerve, and find a point of support in order to depress the maxillary bone towards the mouth. Nothing remains now but to separate with a pair of curved scissors or a bistoury all the soft parts which still adhere to it, especially the curtain of the palate, so as to leave the soft portion of the taller stretched between the pterygoid process of the other side and the mouth. The wound resulting from the operation was bounded on the inside by the nasal fossae, on the outside by the cellular tissue which occurs in great quantity under the buccinator muscle, and above by the abductor muscle of the eye and the fatty tissue of the orbit; behind could be seen the posterior throat above the veil of the palate. With the maxillary was removed part of the malar, the unguiforme, ethmoid and inferior turbinated bones. The operation is much less serious than might be supposed, and is quickly performed; in one case it occupied but two minutes and a half. It is rarely necessary to tie more than one or two small arterial branches. M. Gensoul has performed this operation eight times without loosing a single patient.

The wound is suffered to drip a half hour, or hour, and the flap then united by the twisted suture.

The only difficulty attending the operation is the flow of blood into the throat; it is on this account that the patient is directed to be seated, and the operation commenced by detaching the malar bone.

The flap leaves a triple cicatrix, and is also sometimes insufficient. Would it not be practicable as indicated by M. Velpeau, to commence the incision at the labial commissure, and direct it outwards, then superiorly as far as the temporal fossa? At all events it might be necessary, the better to expose the bone, to incise vertically the superior lip as far as the nasal orifice of that side; the cicatrices would be much less disagreeable than those resulting from the incisions of M. Gonsoul.

IV. Excision and complete ablation of the inferior maxillary bone.

The excision of this bone was performed for the first time by Dupuytren, in the year 1812. Since then it has been often practised; Walther has removed successfully the entire bone. It is conceived moreover that the progress of the disease ought to produce many differences in the mode of operating; we shall reduce them, with M. Lesfranc to the five methods which follow.

1st. *Excision limited to the centre of the body of the bone.*

Method of Dupuytren.—The patient being seated with his face to the light and his feet resting on a low stool, an assistant, placed behind, embraces the head with his two hands and holds it firmly against his breast; and if necessary compresses the external maxillary arteries at the base of the jaw.

The surgeon, placed before to the right of the patient, seizes with the left hand the right side of the inferior lip, at the same time that an assistant takes hold of the left side; and separates it from the superior. With a convex bistoury he divides the whole thickness of the lip, from above downwards in the median line, at first as far as the base of the jaw; then, searching with the left fore-finger for the prominence of the hyoid bone, he prolongs the incision to that point, dividing only the skin and cellular substance. Two flaps are thus formed which he dissects on each side as far as the extent of the disease may render it necessary, keeping close to the bone in order to avoid the labial arteries. These flaps being turned outwards and confided to assistants, he divides the periosteum at the point where the saw is to be applied, and having well determined the limits of the excision, extracts on each side the corresponding tooth to facilitate the action of that instrument. This being done, he passes behind the patient and applies the saw; in this position the section is easily made, whilst if he stands in front, the extremity of the saw enters the mouth and strikes against the arch of the palate, which doubles the difficulty of the operation. He protects, moreover, the nose and the upper lip by a plate of lead, a piece of pasteboard, or a thick compress. The diseased portion of the bone being sawn through, the operator returns to the front, seizes it with his left hand, and whilst an assistant holds the tongue out of the way with a spatula, passes a straight bistoury from below upwards behind the bone, detaching from left to right, the soft parts which adhere to it. The operation being finished, and the vessels tied, he brings together the flaps and retains them by means of the suture, leaving, however, a sufficient space at the inferior angle for the application of a small batch of lint and the discharge of pus. When the osseous excision makes it necessary to cut away a portion of the skin, he marks out a flap for removal by two incisions in the shape of the letter V in such manner as to join the two edges together always on the median line.

If the longitudinal incision will not suffice owing to the extent of the disease, he converts it into a crucial one, by making another along the base of the maxillary bone.

When a small extent only, of the bone is to be removed, the saw may be applied perpendicularly; but when the excision is extensive, in order to bring the fragments in apposition, it is better that the section should be made more or less oblique according to the thickness. In that case the operator begins by four or five light perpendicular strokes of the saw, and then inclines it in such manner as to gain the desired obliquity. In all cases a solid point of support may be obtained by applying the lower jaw against the upper, at least in the commencement of the section.

The submental, labial and lingual arteries giving in general but little blood; an assistant controls them with his fingers, or they are tied according as they are cut; but sometimes owing to the disease, their section causes a very abundant hemorrhage, to oppose which the actual cautery should be applied, taking care that it does not act upon the bone. If the dental artery bleeds, it should be stopped with a little piece of soft wax.

One of the most serious accidents that can happen during this operation, is the retraction of the tongue backwards, after the division of its attachments to the maxillary bone, falling into the pharynx, pressing the epiglottis down upon the larynx, and giving rise to imminent danger of suffocation. We have seen a case of this kind where it was necessary to bring the tongue forwards again with a hook. M. Lallemand was even obliged, in order to save one of his patients to practice laryngotomy.

Method of Delpech.—Before sawing the bone he plunges a bistoury behind it, and through the incision thus made, passes a piece of wood to protect the soft parts; another guards the tongue and superior lip. The section of the bone being made, he seizes the tongue at its point with a double hook and confides it to an assistant and not until this is done does he divide its attachments. Afterwards in using the suture provided it be the interrupted; he takes care to pass a skein of thread through the frenum of the tongue, or even through the supra-hyoid muscles, embracing likewise the cutaneous flaps; if, however, the twisted suture be employed, it should be attached to one of the pins. In one case Delpech passed through the point of the tongue a thread of gold which he fixed to the neighboring teeth: by degrees the thread cut through the portion of the tongue enclosed by it, but the adhesion which had by this time formed, was sufficient.

Finally, it is to Delpech also, that we are indebted for this important precept—to preserve one of the tables of the bone when it is sound, and to limit the excision to the other, using

if necessary the rugine, the gouge or the saw. The bony table which is preserved, although it be small, affords to the soft parts a solid point of support; and gives at least to the lower jaw all the extension possible. M. Roux of Saint-Maximin, has likewise pointed out all the advantage there is in removing only half of the height of the bone, when the other half is healthy.

The differences these indications may produce in the mode of operating, are easily conceived.

Method of M. Gensoul.—This method rests entirely upon the form given to the exterior incision, when the extent of the osseous excision renders it necessary to cut off a portion of the skin. The ordinary v incision has the inconvenience of placing the cicatrix upon the median line ; and when the bone no longer sustains the integument of the chin, there will be a line of knotty fibrous tissue extending directly from it to the hyoid bone, which tends continually to retract, drawing the lip downwards and giving to the chin a novel appearance. Gensoul limits himself at first to the median incision; and if after accomplishing the excision he perceives that there is too much skin ; he retrenches it at will, but upon one side only, in such manner as that the cicatrix may be placed laterally, and the consecutive retraction of the skin avoided.

Relative advantages of the several Methods.—As the retraction of the tongue is always probable, although not constant, it will be better, in order to avoid this accident, to pursue the method of Delpech. As it regards the posterior incision previous to the section of the bone, M. Lisfrance properly remarks that as the tissues adjacent to the bone, ordinarily participate in its disease, it matters but little should they be touched by the saw, since they must necessarily be removed ; moreover, in sawing with precaution, there is but little risk of tearing them. We will add that this reducing of the soft parts is much less formidable than is generally supposed, and that the earing of the inferior dental nerve, which is inevitable, leads to no accident. On this point the method of Dupuytren is simple and seems to us most preferable. For a still stronger treason we must reject another method which nothing can justify, and which consists in completely dividing the attachments of the tongue before making the section of the bone.

With respect to the position of the cicatrix, we apprehend no inconvience from the process of Gensoul ; perhaps, also, if experience confirms its advantages, it might be established as a general rule, and the simple incision made thereafter always a little to one side.

The twisted suture is generally preferred, nevertheless the

interrupted suture succeeded very well in the hands of Delpech. We could also, without doubt, fix one of the fragments to the other by tying with a thread of gold the corresponding teeth; but in general it is not necessary.

2. *Excision of all the Horizontal Portion.*

First Method—by a superior Flap.—An incision should be made along the base of the jaw, passing from one to two lines beyond its angles; a large flap should be dissected from below upwards and turned back upon the face; the bone sawed on each side beyond the limits of the disease; then the soft parts which are inserted into it posteriorly, separated according to the principles above indicated.

If the disease extend high up on the rami of the jaw, two incisions might be made along their posterior edges, which should intersect the extremities of the first.

Second Method by two lateral Flaps.—A horizontal incision being made, (as above,) is to be converted into a T incision, by means of a vertical one dividing all the lower lip on the median line. This mode is easier than the first.

3. *Excision of half the Horizontal Portion.*

First Method—inferior Flap.—(J. Cloquet.)—With the bistoury or the chisels of Dubois a horizontal incision is made, beginning at the labial commissure and ending one or two lines beyond the ramus of the jaw. To this first incision two other vertical ones are joined, one descending from the free border of the lip to the base of the jaw, the other parallel, descending behind the ramus of the bone some lines below the angle. The flap is dissected from above downwards; the soft parts separated from the internal face of the bone, previous to making its section, which is accomplished with phalangeal, the saw *en crete de cog.*, or the chain saw.

Second Method—two Flaps.—(V. Mott.)—The surgeon makes with its convexity below and behind a curved incision extending from the front of the ear on a level with the condyle, nearly to the chin below the labial commissure: the superior flap is dissected up and turned back on the face. Then a second incision is to be made, descending from the superior extremity of the first to the angle of the jaw, which gives the inferior flap. The bone is divided first before, then behind, as high as is necessary and the diseased portion removed. When we go to a certain height, Mott advises the division of the inferior maxillary nerve, before exercising any

traction on the separated portion of the bone, and to bear in mind the proximity of the lingual nerve, in order to avoid injuring it.

Prior to this operation the American surgeons believed it necessary to tie the carotid artery.

Third Method—superio r external Flap.—(M. Lisfranc.)—A vertical incision is first made, commencing at the free border of the lip and extending down under the chin; then a second, which extends from the first, along the base of the bone to a point about two lines beyond its angle. The flap is dissected from below upwards above the tumour and turned back on the face. The ramus of the bone is divided with the saw *en crete de cog.*, and the second section made near the chin with an ordinary fine saw; the tumour being removed, the flap is brought down and retained by the suture. This method, besides, being more simple than the former two, is not liable to collections of pus at the base of the flap, and leaves, finally, but a slight cicatrix on the face.

Fourth Method—superior internal Flap.—If the disease should extend farther posteriorly than anteriorly, we might succeed well by means of a semi-lunar incision made along the ramus and base of the jaw, extending from the ear to the chin. We would thus obtain a superior and internal flap, and avoid a cicatrix on the face after recovery.

In all these dissections we should include with the skin, the cutaneous muscles only. The masseter should be removed to the same extent as the bone. The external maxillary is always encountered, but may be easily tied before dividing it.

4. *Excision of half the bone including the articulation.*

This operation has been practised with more or less success, and in most of the cases surgeons have found it proper to tie the trunk of the carotid, before beginning the operation. We have to divide the external and internal maxillary, dental, transverse facial, *masseter* and temporal arteries and run the risk of touching the internal carotid. However, Lesfranc and others have accomplished the operation without ligatures.

Method of Operating.—The operator should commence by making a horizontal incision along the base of the bone, interesecting it by a vertical one which divides the inferior lip; then a third should be made extending from the first to the zygomatic arch and passing behind the ramus of the jaw; then the quadrilateral flap circumscribed by these incisions, should be dissected up and the saw applied to the bone, commencing in front. After which the soft parts should be de-

tached from the internal face of the bone; and the tendon of the temporal muscle divided from within outwards by gliding a concave bistoury behind the coronoid process. Nothing further will remain but to detach the condyle, which is to be effected by dividing first the external articular ligament; then rotating the bone in order to stretch in turn every point of the capsule, dividing the latter with the chisels. The condyle being detatched and carried outwards, it will be easy to pass behind it a probe-pointed bistoury in order to cut away, the external pterygoid muscle.

This operation is tedious and difficult; for this reason it is necessary to tie all the arteries as fast as they are divided, and if the ligature of the carotidian trunk has been omitted, it must be kept out of the way of the knife, by an assistant.

After this, as well as after the preceding operations, the deviation of the remaining half of the bone is towards the opposite side is almost inevitable.

5. *Complete Ablation of the Bone.*

This operation has been performed once by Naltar of Bonn with complete success. The method to be pursued is as follows:—A horizontal incision should be made along the base of the jaw, each extremity of which should be intersected by a perpendicular one coming from each zygomatic arch, the immense flap which results is to be turned back on the face, and the operation continued first on one side then on the other, according to the directions already laid down.

It is evident that we would facilitate our object if we first sawed the bone at the middle part; by this means reducing the operation to two excisions, nor will it be necessary in order to accomplish this, to form a cutaneous on the median side

V.—Excision of the ribs.

This operation was known for a long time before M. Richerand claimed to be the inventor.

The diseased portions of the bone should be exposed by means of a straight, curved or crucial incision, or by making at once a quadrilateral flap; after which the intercostal muscles which adhere to the rib, both above and below should be divided, either from within outwards or *vice versa.* The rib is then to be detatched from the pleura with the handle of a scalpel, and excised by means of a saw *in crete de cog.*, or by gliding behind it the chain saw.

The pleura is generally thick, and beneath the ribs, and moreover adheres to the pulmonary layer, in such manner that the introduction of air is little to be feared; sometimes, however, it is nearly sound, or again its thickness is of such a nature, that its excision becomes necessary. To effect this we may use the sharp edge of the curved chisels; the air which rushes quickly into the cavity of the thorax threatens immediate suffocation; and to prevent this the flap should be hastily brought down, or the wound completely covered with a large compress spread with cerate, after which we must be guided by the rules established on this subject for the operation of empyema.

M. Richerand further indicated that a dangerous hemorrhage from the intercostal artery at the moment of its division was greatly to be feared; this artery is of a very small calibre as it passes from the posterior third of the rib, consequently this fear is nearly without foundation.

VI.—Excision of the sternum.

Galen is said to have removed a large portion of this bone; and several operations of the same nature have succeeded in the hands of modern surgeons. In these cases the trepan and the circular knife are generally employed: if these will not suffice we may resort to the saw *en crete de cog.*, the gouge and the mallet or even the chain saw to divide the costal cartilages, by which means we will easily terminate the operation.

VII.—Excision of the spinous processes of the vertebræ.

This operation was performed in 1829 by Dr. Alban G. Smith of Kentucky.

Owing to a fall from a horse, a young man had the spinous process of one of the lumbar vertebræ thrown to the right about three lines from its natural position. It was supposed to be a luxation; the patient however survived; and being affected two years afterwards with paralysis of the inferior members, was willing to submit to any means for the sake of recovery. An examination was made by Dr. Dudley in the presence of Dr. Smith, and the operation decided upon.

An incision of five to six inches was made along the spinous process of the vertebræ, and to each of its extremities a transverse one was added of three and a quarter inches in length, and extending down to the bone. The muscles were

then detatched from within outwards, in the two vertebral grooves, as far as the rough turbercle of the transverse apophysis, and by this means the whole deformity exposed. Four of the vertebræ participated in the fracture. With the little saw of Hey, the section of the vertebræ was made in such manner as to remove the spinous processes—the lips of the wound were then brought together, which completed the operation.

The patient, some time after, was in a fair way for recovery—the paralysis was diminished.

VIII.—Excision of the bones of the pelvis.

In caries or osteo-sarcoma, portions of the crest of the ilium, of the ascending branch of the ischium, and the entire coxcyx have been removed. In the management of these cases one must be governed by the extent of the disease and the general rules indicated for the treatment of caries.

B. D.

Enlargement of the Tonsils—Excision—Cure.—M. J. Rodgers, ætat, 16, enjoying apparently robust health, was admitted, July 14th, for enlargement of the tonsils. She states that for several years past she has been subject to repeated attacks of sore throat—has for a long time observed that her enunciation was constantly becoming more difficult, and has a constant uneasy sensation in her throat, and frequently, when in the recumbent position, difficulty of respiration. Upon examination, the tonsils were found to be considerably enlarged, with a general redness of the back part of the throat. On the day after entering the house, the left tonsil was excised by means of the sector tonsillarum of Dr. Fahnestock. Six days afterwards, the tonsil of the right side was removed. The hæmorrhage resulting from these operations was trifling, and the slight soreness of throat which followed was entirely removed after a few days. She was discharged cured, August 24th.

Nitro-muriatic acid as a remidial agent.

Dr. Mettauer has some valuable observations in the American Journal of the Medical Sciences for February, on the use of the nitro-muriatic acid. He has used it with the happiest effects in cases of obstinate constipation, puerperal mania,

torpor of the liver, dyspepsia, uterine affections of a sub-inflammatory character, some of the forms of external scrofula, and nearly every variety of pseudo-syphilis. He remarks:

"From the prompt and decided action of this remedy upon the biliary secernents, when endermically applied in all the cases in which we have used it, it presents itself as a valuable remedy in the treatment of that scourge, Asiatic cholera; and should we ever have an opportunity of treating a case of that appalling disease, it shall constitute one of our chief remedies. In this disease it may be used both as a certain and prompt promoter of the biliary, and general secretory operations; and as a powerful revellent, and counter-irritant, in aiding the centrifugal tendencies to the skin, two of the most important therapeutic designs in treating cholera. It may also be beneficially employed in cases of irritability of the stomach demanding cathartics.

In the first case which has been detailed, we believe no other remedy would have arrested the course of the disease so promptly and effectually as the acid mixture; and from the numerous and satisfactory trials of other remedies unsuccessfully used, we are forced to the conclusion that no other agent possessed the therapeutic properties adapting a remedy to the cure of such a disease as this case must have been.

The case of puerperal mania furnishes evidence equally satisfactory, in support of the therapeutic powers of the acid mixture, when employed as an epidermic remedy, as no other agent was used at the time, nor had been employed for more than ten days before it was resorted to. In this case we are disposed to believe, if the acid mixture had not been employed externally, that the disease would have terminated fatally, as it was next to an impossibility to introduce efficient remedies in any other mode, and the patient was daily and rapidly declining, when it was commenced with, and must very soon have succumbed under the afflictive disease.

In the last case, particularly detailed, it will be conceded that this valuable remedy was equally efficient in arresting the tendency of the bowels to troublesome constipation, and in imparting to the digestive system a condition more favorable for a heathful exercise of its functions.

We believe the acid mixture is especially adapted to the treatment of morbid states of the human body, based in chronic inflammation, or engorgements of the capillary and parenchymatous structures of an indolent nature, either as the primary pathological condition of these structures, or the consequence of inflammation. In this view it is assimilated in

its remedial action to mercury, to which agent we believe it bears a very striking resemblance in many of its therapeutic powers, especially those from which a deobstruent operation may be supposed to result. In the cases which have been detailed, as well as the diseases referred to, in which the remedy has been found decidedly beneficial, one or the other of these conditions must have obtained in the organs chiefly affected, or the pathological state from which the functional disturbances followed, constituting the external morbid phenomena of the disease present; the almost entire absence of constitutional fever, and the ordinary concomitants of a state of active phlogosis, in the diseases treated by us, as well as the cases reported in this communication, in which the acid mixture was chiefly beneficial, render it strongly presumable, that such was the character of their pathological basis in the structure at the time the remedy was employed.

In diseases of decided inflammatory character, the acid mixture is entirely inapplicable; and, as far as our experience enables us to decide, becomes so by reason of its tendency to irritate the constitution through those qualities which directly exalt the action of the economy unduly, so as to superinduce a state of hypersthenia. We have never found any but injurious effects to follow its action in every form of acute disease in which we have employed the remedy, and for a number of years have confined its use exclusively to chronic affections with very slight febrile disturbance of the general system.

Whether employed internally or externally, the remedial effects of the acid mixture are the same. Occasionally it acts with undue violence on the liver and bowels producing hypercatharsis; or even a condition may follow closely verging on dysentery, as it sometimes elicits sanguineous dejections, attended with tenesmus of most painful character. But, generally, its action is moderate and equable, and the remote textures, especially those forming the capillary and parenchymatous structures, as they constitute the glandular and other secsteting organs, are chiefly obnoxious to its operation. Upon the glandular system, as well as the extended secerning mucous and serous surfaces, it acts with peculiar effect as a promoter of secretion and absorption. It is very certain that this mixture increases the salival flow; but its action as a sialagogue differs from that of mercury in not producing tumefaction of the gums, but only slight tenderness of them, beyond which it can seldom be increased. The breath is never contaminated by it, unless the acid is permitted to act on the teeth; and to prevent this accident, it should always be im-

bibed through a tube of some indestructible material introduced fairly into the fauces.

From the experiments of Dr. Scott, and others, as well as from our individual experiments with the nitro-muriatic mixture, and a solution of chlorine in water, we are disposed to refer the action of the compound in every case to the presence of chlorine, and believe, with Dr. Scott, that a solution of this elementary substance in water will answer as well as the nitro-muriatic mixture as a remedial agent.

Anatomico-Physiological Remarks on a Person who had been Beheaded.—Some very curious and interesting remarks on a person who had been beheaded are recorded in *Miller's Archives* for 1838, by Professor Bischoff, of Heidelberg. We extract the following particulars from a translation by Dr. Bigger, published in our esteemed cotemporary, the *Dublin Journal of Medical Science*, (Sept., 1839.)

The individual upon whom the following observations were made was a robber and murderer, named Sebastian Zink, who was publicly beheaded on the 6th of July, 1838. Professor Bischoff and Dr. Heerman stationed themselves immediately under the scaffold, so that they could have the head and body of the decapitated man immediately under inspection, whilst Dr. Jolly remarked on the outside every thing which should occur, the greater part of which could also be seen and heard by his two colleagues.

"A few seconds," says Professor B., "after the blow with the sword had been struck, at thirty-six minutes and a half past nine, we received the head, which was hastily handed down in the bandage which had covered the face, without having been deranged by falling or receiving any shock. The bandage was immediately removed, in order to see the manner of separation from the body, the bleeding, and the impression of the features. The blow had been given most successfully, and the blade had passed anteriorly between the os hyoides and the larnyx, posteriorly very nearly between the fourth and fifth vertebræ, yet in such a manner that a portion of the left oblique process, and of the body of the fourth and a piece of the oblique process of the fifth were hewn through. The blood flowed slowly and continually. The expression of the countenance was of the most perfect tranquillity, not a trace of pain or distortion. The eyelids were a little sunk, the mouth closed, yet easily opened. The expression of the eyes was perfectly tranquil, neither staring, as mentioned by an earlier observer, nor yet dull and without lustre, but like those

of a person who looks at something at a great distance. Dr. Heerman, who had visited and sat with the criminal for an hour on the preceding evening, could not discover any greater change in the features than the absence of his accustomed piercing, sharp glance, and the pupils being somewhat dilated.

"I approached my fingers, and then a brilliant needle close to the eyes, yet without touching either eyes or eyelids. This was repeated often without causing the slightest motion in either the eyes, eyelids, or other features.

Dr. Heerman now shouted his name in his left ear, and the word 'pardon,' under the conviction that this sound would produce an effect upon whatever consciousness might be present, as up to the last moment the criminal had been continually hoping for a reprieve. There was no trace of any motion. I now held to his nose a bottle of very strong smelling tincture of assafœtida, which preparation I preferred to ammonia, because I expected a purer action from it on the olfactory nerves, as it might be possible that the ammonia, by stimulating the nerves of the mucous membrane, should produce a motion of reflection. This experiment also failed. I then dropped upon his tongue a drop of the tincture of coloquintida; a feeble thrusting forward of the tongue and slight motion of the jaw ensued; both these motions were repeated three or four times, at short intervals, whilst in the other features no trace of motion was visible. In order to try, in a certain degree, how far the spirits of wine contained in the tincture could be regarded as cause of the motions, I placed a drop of pure spirits of wine on the tongue, which caused a similar motion of both tongue and jaw.

"All these experiments were finished within one minute after the fatal blow had been given. The question now arises, were those feeble motions of the tongue and jaw the consequence of sensation? if so, consciousness must have been present; or were they reflected motions dependent on irritation of the mucous membrane of the tongue, or from irritation of the severed spinal marrow, and therefore not caused by the tincture of coloquintida? To both of us the last of these suppositions appeared most probable. The tranquil condition of all the other muscles of the face appeared to contradict the idea that any unpleasant taste or flavor had caused these motions. The symptoms of the reflex functions, however much developed in the motions of chewing and swallowing, are much less affected by irritants applied to the tongue than by those applied to the mucous membrane of the palate, uvula and jaws. I must mention, also, that real irritation of the mucous membrane of the tongue with the point of a pin pro-

duced no motion. On the other hand, opening and shutting of the mouth are the motions which are most frequently to be seen in decapitated animals, and which are certainly dependent on the violent irritation of the spinal marrow. The tongue can move very little at the same time, on account of the attachment of the muscles which retract it having lost their fulcrum.

"Thus there does not appear to have been a single symptom present which permits us to suppose that consciousness was present; it appeared to have ceased instantaneously. It is right to remark that previous to the blow being given, he was not at all confused in mind, as were the ten criminals beheaded by the executioner Brand, as communicated by Heim. Zink, previous to execution, was in a perfectly careless mood, yet a little excited, and displayed the lamentable rudeness of his general demeanor; his mental powers were so little affected, that he said to the attendants of the executioner, as they were binding on the bandage on his eyes, an instant before he received the blow, 'Ye slaughter one like butchers!' During life this man seemed to possess very little nervous sensibility, the same was evidenced after death, in the experiments performed, so the evidence of those who have obtained contrary results is not by this instance much weakened. Yet I may say that negative results of an observation in the state of mind in which the greater number of observers must be at such a moment, carry with them more credence than positive ones, in which the excited fancy may play a prominent part, as from the relations of others, who during similar operations previously have beheld marvellous things. All the evidence brought forward with any accuracy to prove the continuance of consciousness, have consisted mainly in a few remarks on impressions being conveyed to the auditory apparatus in animals which had been irritated, which collectively cannot be considered as motions of reflexion, or as caused by irritation of the spinal marrow.

"I now proceeded to perform certain experiments from which I expected real motions of reflexion. I touched with a needle the eyelids and eyelashes as well as the conjunctiva; I irritated the mucous membranes of the nose, mouth and pharnyx, in the expectation of perceiving motion, but all in vain; all the muscles remained perfectly quiet, so that this was a proof not only of the rapid disappearance of consciousness, but also of that of the nervous irritability. Even piercing the severed part of the spinal cord with needles, and touching it with a pencil of kali causticum, produced no mo-

tions more in the head, whilst yet not more than from two to three minutes had passed from the period when it was severed from the body.

"We now turned our attention to the trunk, and whilst Dr. Heerman quickly tied the carotids, out of which the blood continued to flow with little jerks, in order to support the nervous and muscular irritability by detaining the blood, I sought, by piercing, scratching and pinching the skin on the soles of his feet, fingers and toes, to call forth some reflex motions; this proved vain also. Irritating the spinal cord produced twitchings in the pectoral muscles, and elevation of the arms.

"The corpse was now placed in a coffin and conveyed to the neighboring hospital, where every thing was ready for further experiments. It was now fifteen minutes past ten, consequently thirty-eight minutes and a half since the execution.

"We next introduced some electrical streams into the nerves. For this purpose Dr. Jolly had constructed a galvanometer, which by the immersion of a single plate of one-fourth inch square in pure water, produced an aberration of the magnetic needle to about 90°. I first sunk the platina terminations of the two conductors, one in the gray, the other in the white substance of the spinal marrow of the trunk. This process being repeated often, and the needles changed, not the slighest motion of the magnetic needle occurred; the introduction of the needles also caused no twitchings of the muscles. This experiment was tried on account of the assertion of Folchi, who stated that in a calf which had just been decapitated, and on which a similar experiment had been tried, there was an aberration of the needle abont 6° west, on every new introduction of the needles, (Foriep's Notizen, No. 950,) which experiment had often before been tried without any effect on decapitated dogs. Dr. Heerman now exposed the median nerve in the upper arm, and I plunged the two needles into the trunk of the nerve, at the distance of about one inch from one another, and endeavored, by mechanical irritation of the spinal marrow to produce twitchings in the arm; none occurred, nor were there any changes in the magnetic needle. I now applied one pole of a powerful galvanic battery of sixty pair of four inch plates, capable of giving me a tolerably strong shock, producing sparks, and decomposing water, upon the spinal marrow, the other on the hand. There arose evident yet slight twitchings in some of the muscles of the fore and upper arm, viz: in the supinator longus, extensor carpi, ulnaris longus, and in the internal head of the triceps,

but no motion in the magnetic needle. It also remained perfectly unmoved when I applied the second pole upon the trunk of the nerve, the same was the case when I applied both poles to the trunk of the nerve, so that the chain was perfect, although in the latter instance twitchings occurred in the muscles mentioned above. Some inference may be drawn for the hypothetical electrical streams in the nerves, at least that the nerves are exceedingly good conductors of electricity, and much better than the metals, or otherwise the magnetic needle should have been affected in the last case, had it been the better conductor. Mattevic, in the Bibl. Univers. de Geneve, August, 1834, has communicated a similar experiment with like result. On the contrary, J. Muller has, in the Archiv. fur Anatomie, Phisiologie, &c., declared that all parts of the body, and even a drop of water act in the same manner. Without wishing to raise a doubt against this observation, we may say that from it cannot be deduced that the nerves and perhaps other moist organized parts are not good conductors. The want of reaction in the galvanometer, when the circle is completed, by any of these parts, will admit of the general conclusions being drawn either that they are very good or very bad conductors of electricity. The experiment of Muller admits only the one explanation, that the moist organic structures are very bad conductors, for he only employed a weak source of electricity, a single pair of moistened plates, and the circle was not completed, and thence there was no aberration of the magnetic needle. On the contrary, in our case the occurrence of reaction, the contraction of the muscles showed that the circle was completed. Should any one object that nerves are bad conductors, and that the results we obtained were from our using a very powerful source of electricity, his own argument might be used against him, for the more powerful the electricity, the more likely would it be to pursue the metallic conductor if it were the best. The non-reaction of the galvanometer appears to have been caused by the very great conducting susceptibilities of the nerves (or perhaps of the other animal tissues,) for electricity: I do not wish to draw as a conclusion that electricity is the active agent of the nervous system, a circumstance which for many other reasons I think to be improbable. I have repeated also the experiments of Varvasseaux and Berardi, as well as those of David, and in no instance has there been any change of position remarked in the magnetic needle when I sink the platina conductor of the galvanometer into the nerves of a living animal, and by means of mechanical irritation caused motions

and twitches, actions of nervous irritability. This is accounted for, as we said before, from the nerves being better conductors than the metals.

"Mechanical irritation of the median nerve, pricking, pinching, and even cutting it across, produced no effects, whilst galvanism still produced twitchings.

"I next opened the chest and abdomen, whilst Dr. Heerman tried some experiments on the irritability of the iris. It was now fifty minutes past ten, and the iris showed no disposition to contract, not even when the pole of the battery was applied directly to it, the cornea having been removed, yet the battery was so strong that it immediately caused decomposition of the fluids of the eye, and a development of gas.

"In the chest and abdomen there were no spontaneous movements to be seen; also when the galvanic pole was applied consecutively to the phrenic and vagus nerves, to the stomach and intestinal canal, on the ureters, gall bladder, and the cystic duct, no contractions occurred. The right auricle of the heart alone continued to move after this, for an hour and a quarter, the same occurred in the muscles of voluntary motion, but was scarcely perceptible after an hour and fifty minutes. As the experiments on the phrenic and vagus nerves were made at ten minutes past eleven, just one hour and thirty-three minutes and a half from the execution, even then the twitchings in the voluntary muscles were very weak, in comparison with those mentioned by other observers in other cases, which confirms the remark which I made already with regard to the head, that the nervous faculty and capability of irritation were not strongly developed in this man.

"Whilst those observations were making, I was seeking the thoracic duct, which I found, with a good deal of trouble, on account of the body being very fat and the vessel containing only a muddy, grayish fluid; a portion of this fluid being removed, coagulated as usual, but it formed a very small coagulum around the bit of stick which was moved in it. Under the microscope the little round bodies did not appear numerous in the fluid, but were nearly of the same size as the molecules in the blood, many of which might have entered along with the chyle whilst we were obtaining it, but there is sufficient to distinguish these two sets of bodies from one another.

"I take advantage of this opportunity to communicate my observations on the chyle molecules, which I had often examined in dogs. In the white chyle of the thoracic duct of young dogs, after being fed, I have always seen two kinds, the first exhibits an innumerable quantity of exceedingly small, little bodies (kornchen) or particles, which are only to

be seen when the chyle is permitted to run on plates of glass, when their appearance is exactly like that of sand put in motion. The microscope must be very powerful to show this. The second kind of little bodies are fewer in number, much larger, and the greater part of them of the size of the molecules in the blood, but there is no kernel and no envelope to be seen in or on them, besides they have not the yellowish appearance which, when powerfully magnified, even a single blood molecule exhibits; they are unchangeable in water and in active acid. When the chyle is agitated they sink to the bottom, and they form a part of the coagulum. The rest of the fluid remains white, where they are in very small number, and where they could not be the cause of the intense white color. This color is, I think, attributable to the other set of innumerable little molecules, which I take to be fat. Still I am opposed to the opinion of J. Muller, that the white color of the chyle is principally attributable to fat; for if the chyle be treated with æther, in a glass tube, often shaken, and fresh æther still added, (not in a watch glass, where the experiment cannot succeed,) it loses nearly all its color, and appears of a light opal. This remnant of opacity cannot be caused by the larger molecules, for they were dissolved just as the blood molecules are by the æther, a process which I saw going on; but it seemed to me that this opacity arose from coagulated albumen. I believe that the evidence of Tiedeman, Gmelin, and J. Muller are alike, all considering the prevalence of the white color in the chyle as proceeding from very minutely divided particles of fat, but that these are not the genuine chyle molecules which exist independent of them. This view is strengthened by this, that in the pinkish contents of the duct in dogs which had fasted long, those very fine particles were not so evident, whilst the other chyle molecules were even as numerous, nay, relatively more numerous than usual.

"After having collected the chyle, I observed the mucous membranes of the trachea and larynx, and had the pleasure of seeing myself, and being able to show to those present, the ciliary motions. These motions were not discoverable in the œsophagus, not even in that part which covers the posterior wall of the cricoid cartilage.

"I next examined the urethra, vesiculæ seminales, vas deferens, and epididymis. In the urethra it was evident that an ejaculation of semen had taken place, as in the case given in Valentine's Repertorium, I. p. 277; this arises, naturally, from the violent contraction of all the muscles at the moment of decapitation. There was found in the urethra many large, yellowish coagula, like coagulated lymph, and a whitish fluid

which contained mucous seminal animalculæ alive, but not so numerous as those which I have seen in the seminal fluid of other animals. The same kind of coagula, and the same animalculæ were seen in the vesicuæ seminales, which were of small size. The animalculæ were found in the whole course of the vas deferens, alive, but not in such great numbers. I thonght I could see them also in the seminal canals of the testis, but as they were few in number, and not living, I do not wish to assert this as a positive fact. The contents of these parts contained also many other kinds of particles, but none of such determined forms as those which Valentine describes. It is probable they were particles of epithelium. The fluid which exuded, on a section of the prostate being made, was clear and pellucid, but I could not discover in it any elementary bodies, except some blood molecules.

"Much pains were taken to examine the brain carefully; when the skull-cap was removed, all the veins were found to be full of air, and air had penetrated between the pia mater and arachnoid, causing a very peculiar appearance on the surface of the hemispheres. Could this air have entered at the severed part of the spinal cord? This is difficult to credit, for in the brain as well as in the spinal cord, the pia mater and the arachnoid lay very close together, and no fluid intervened, the escape of which might permit the entrance of air. Through rupture of the vessels? This I am not willing to allow either. And by this my view is strengthened, that the formation and course of the arachnoid is not yet perfectly discovered. The examination of the brain was not satisfactory. Particular attention was paid to the spleen: in it I found the little white bodies described by Malpighi, which I have seen in the four classes of vertebrated animals, but which are hard to discover clearly in man. I believe that the function of the spleen is to produce them, and I cannot see any reason why Muller should suppose that those he has seen in certain ruminating animals, are of a different nature from those which have been found in the spleens of other animals, or from those which I believe to exist in the healthy spleens of all men. That these are hard, and tolerably large in some, whilst in others they are soft, small, and easily dissipated, is no reason that they should be considered essentially different. I found, also, in these bodies, universally, as well as in the spleen of this subject, those little round bodies or balls which J. Muller has described. With a cataract needle it is easy to isolate as many of these little bodies from the spleen as may be necessary for microscopical observation. I find that these are exactly similar in appearance, size, relations to water and acetic

acid, to those of the chyle; therefore is it not possible that these may originate in the spleen? It is true that the corpuscules of which the parenchyma of the liver consists, are, as Muller remarked, very like those in the corpusculi Malpighiani, yet similar bodies are to be found in many places, and still the parts organized from them are very different from one another.

"From attention to this point, I think shortly, much information wiil be obtained with regard to the spleen, and the formation of the corpuscules of the blood, although as yet no change has been seen in the formation of blood after extirpation of the spleen. It is questionable whether sufficiently accurate examination has been made of the blood globules in those animals which have been deprived of their spleens.

"Lastly, I examined the stomach and the villi of the intestinal canal. In the former the mucous membrane of the fundus was strikingly softened; it was now 4 o'clock, and the day very warm, the contents of the stomach smelt very sour, from wine and sallad. The villi of the small intestines were of pyramidal form, formed of little bodies united together, and I could not discover any epithelium formation on them after they had been gently washed in water.

"There was no diseased appearance in the whole body, except an adhesion of the lung to the walls of the thorax, occasioned by an old gunshot wound in all probability; three grains of large shot were found under the pleura costalis, unchanged in appearance, and surrounded by a quantity of cellular tissue.

"The ventricle of the heart was very strong and muscular, and compared with the rest of the muscular structures, might be called hypertrophied.

"After six hours busily and uninterruptedly employed with the body of this unfortunate man, though aided by my friends I still feel that many observations might have been made in a more accurate manner. My hope is, that what has been done may lead to further observation on the same subject."

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MECICAL JURISPRUDENCE AND TOXICOLOGY.

On Poisoning with Arsenic: Orfila's *Late Discoveries.*—The subject of poisoning by arsenic, which is so important both in forensic and practical medicine, has just been re-examined and thoroughly solved—at least in its medico-legal relations—in some memoirs communicated to the Royal Academy of Medicine.

For this we are indebted to M. Orfila. No one doubts the immense importance of the medico-legal applications of these new researches; but the same cannot be said of their therapeutic value, for this has been contested.

As we are disinterested witnesses of the discussion, and have conscientiously studied all the details of the question, we shall examine it successively under its two aspects. We must observe, however, that in these new inquiries of M. Orfila, the therapeutic question is subordinate to the medico-legal one. We shall, therefore, touch but slightly on the first; but we shall go at length into the method by which arsenic is detected *to a certainty*, in the bodies of those poisoned by it, and which, by the extension of which it is capable, will effect a fortunate revolution in toxicology, by ensuring the discovery of the greater number of poisons in the bodies of their victims; and this at every period of their crime, however advanced decomposition may have been, and in whatever manner the poison may have entered the living organs. Such, by anticipation, is the general enunciation of the results of these inquiries.

Hitherto, medico-legal examination in cases of poisoning has consisted chiefly in analysing the matters found in the stomach and intestines after death. Investigation was not pushed any farther.

But it often happens, however little the judicial inquiry may have been delayed, particularly when the dose of the poison has not been very large, that the most careful analysis does not detect the slightest trace of any poisonous substance, although poisoning has actually taken place. This is particularly the case with arsenic, the special object of the late investigations, and must be so also with a great number of other poisons.

The cause of the failure is obvious enough; the poison has been removed by absorption from the alimentary canal. Whether the arsenic is swallowed, or applied to any other part of the system, the explanation is the same; unless the dose is very large, it disappears sooner or later, being carried by the absorbents into the depths of the system. This being granted, it is plain that if we confine ourselves to testing for arsenic according to the established methods, a skilful poisoner may escape the just punishment of his crime; for the jury is rarely satisfied except by the absolute detection of the arsenic.

Now, M. Orfila's method pursues the poison through every tissue of the frame, and detects it in the liver, the lungs, the brain, nay, in the last wrecks of organic matter. Here fol-

lows a proof; we select it from many others, first, because it is decisive, and also because it has been the starting point from which all the datails of the question have proceeded.

On the 22d of December, 1838, a man died with all the symptoms of poisoning; but these are no more than probable evidence, as many natural diseases may be attended by the same symptoms. The body, therefore, was buried. A fortnight afterwards the public loudly demanded that the circumstances attending this death should be judicially investigated. The body was disinterred, and, on examining the digestive organs those anatomical lesions were discovered which usually follow poisoning by arsenic. It remained to be seen if chemical analysis would confirm the triple testimony borne by the symptoms of the disease, the organic lesions, and public opinion. Skilful experimenters tested and tested again, according to all the rules of science, but in vain: not an atom of arsenic was detected, and the corpse was again buried.

Meantime, the moral proofs of poisoning became stronger every day. M. Orfila was officially consulted, and, by his advice, the body was again disinterred, in April, about four months after it had been originally buried. The remains of the corpse were sent to Paris to be again examined. It is easy to imagine the state of the internal organs in a subject which had rapidly sunk under its symptoms, even if it did not perish by a violent death; which had been buried and disinterred twice in the space of four months; which had undergone all the minute trials of a judicial inquiry, as well at the hands of the chemists as of the physicians, and which, in conclusion, was exposed to the continual joltings of a post-chaise during a journey of eighty leagues. In fact, the stomach and intestines no longer bore any trace of organic structure, and all the other parts were more or less disfigured. It was to this mass of flesh, almost shapeless, and half decomposed, that M. Orfila had to apply his new method. This memorable experiment was performed in the presence of MM. Devergie and Lesueur, and with their assistance. The result did not disappoint the celebrated forensic physician; he demonstrated the presence of arsenic in the liver and in the limbs of the victim; and it was even detected in the cask which had been used to preserve the remains. Let us now mention in what this method consists, how it is practised, and on what its success depends.

Arsenious acid, when introduced into the stomach, or inclosed in the subcutaneous cellular tissues, is absorbed, and mixing with the blood, enters every organ. When it is finely powdered, and placed on the subcutaneous cellular tissue, only

one or two grains are absorbed, whatever may be the quantity used; and this small quantity is sufficient to kill dogs of different sizes. More of it is absorbed when it is introduced into the digestive cavity.

The cases of poisoning which have hitherto occurred in man show that arsenic acts in the same manner that experiment shows it does upon dogs, except that a greater quantity is required to produce death in man. The mode of action of arsenic being thus determined, in reference to the parts to which it is applied, to the passages through which it makes its way, and the quantity which is required for poisoning, M. Orfila meets the question of the extraction of the poisonous substance, in his ordinary way, by experiments and facts. He first shows that it is possible to obtain metallic arsenic from the portion which has been absorbed; and next, that it is indispensable to have recourse to this extraction when the poison has not been found in the alimentary canal, nor in the matters vomited, nor in the other parts to which it may have been applied; for if we confine ourselves, as has been done hitherto, to looking for arsenic in the matters coming from the stomach and intestines, we run the risk of finding none, either because none remains in the digestive tube, or because the matters vomited have been removed; while the metal may always be obtained from the portion of the arsenious acid which has been absorbed, as facts and experiments continue to show.

This poison, adds M. Orfila, may be detected by properly treating a certain number of muscles, or a single viscus, previously dried, particularly if the viscus is very vascular; but it it is better to act upon the whole corpse, or at least on half of it, as the quantity of arsenious acid which has been fatal is too small for us to hope to detect it beyond the reach of doubt, if we treat only a single viscus, or an inconsiderable portion of the muscles and bones.

Moreover, arsenious acid can be detected in the blood obtained by bleeding the patient, provided there are several ounces to examine. In this point of view, at any rate, bleeding would be highly useful, by facilitating the inquiries of justice. We shall afterwards say what we think of its utility as a therapeutic agent.

We have just seen, on the one hand, how arsenious acid may be introduced into the system, and on the other, what becomes of it and by what line of proceeding it is to be detected; it remains only to show the method of extracting it. M. Orfila proves by the accumulated results of cases and experiments, that the best method of obtaining the metal consists

in boiling the whole body in distilled water for six hours, in precipitating the impregnated fluid with sulphuric acid, then removing the arsenic from the sulphur which is deposited, mixing the decanted and filtered liquid with solid azotate of potass, (nitre,) evaporating the mixture to dryness, and then incinerating the product: this is first to be treated with water, and afterwards with concentrated sulphuric acid, and then to be put into Marsh's apparatus, not in its usual form—for this is inadequate to the purpose—but as modified M. Orfila. It would be disadvantageous to omit throwing down the precipitate with sulphuric acid, and to mix the liquid at first with the nitrate of potash, because whatever we do, we always lose a portion of the arsenious acid while burning the collected matter with the nitre. The loss will be evidently much smaller if we begin by removing from the fluid all that sulphuric acid can precipitate, and only treat with nitre the liquid which covers the precipitate.

It is proper to add that we lose but little arsenic if we burn the organic matter after having diligently mixed it with the dissolved nitre; while much less is obtained if the mixture of the animal matter and the nitre has been made in a morter. The loss is still more sensible, if incineration has been performed after Rapp's method.

The body is to be cut into pieces, and may be conveniently boilded in large cast-iron cauldrons, or in copper ones, if the verdigris is carefully removed; and a very clean iron pan, or a Hessian crucible, may be used for the decomposition of the animal matter by the nitre.

In places where, for want of utensils, the examiners do not undertake all these investigations, it will always be possible, and, indeed, is indispensable, to boil the body in a large cast-iron cauldron, for six hours, with distilled water and tea, or twelve grains of solid potash prepared by alcohol; and then evaporate the fluid to dryness, after having passed it through fine linen, while still luke-warm. The solid product may afterwards be conveniently submitted to the necessary tests. Lastly, the presence of arsenious acid in a human body with which it has not been placed in contact, provided its existence has been demonstrated by boiling the corpse cut into pieces, in distilled water, for six hours, without the addition of an acid, incontestibly proves that the poison has been taken during life; for numerous experiments have shown that the bodies of those who have not been poisoned with arsenic, when treated in the same manner, furnish no trace of it.

The chief object of the investigation which we have just analysed is to detect the presence of arsenic, either during the

illness of the patiet, or after his death; and we are compelled to conclude that M. Orfila's new method of investigation, joined to his improvements of the old ones, makes it impossible henceforth to miss the tangible proof of arsenical poisoning; so that those who have committed such a crime can never again escape the vengeance of the law.

But there is another duty, of which the medical jurist must not lose sight; it consists in preventing the judges from committing an irreparable error by showing beyond all doubt, that the poisonous substance discovered in the living or dead body has been really introduced by a criminal hand, and that it can neither have been naturally produced in the human frame, nor artificially developed by the action or reaction of the numerous agents employed in testing.

M. Orfila has not overlooked the importance of this task. He first inquired whether the human body contained arsenic among its chemical principles; under what form it appeared; and whether it was possible to distinguish it from arsenic introduced from without. These points having been cleared up, he examined the conditions of the purity of the tests used, and fixed rules by which we may be assured that the arsenic obtained is neither derived from the reagent, nor the vessel, nor from the earth where the corpse may have been long deposited.

M. Orfila has ascertained the existence of an arsenical compound in the human body. This compound, which he believes to be arseniate of lime, is found in a small proportion in the bones, and perhaps in other tissues. This important fact might make one fear that the occurrence of a natural salt of arsenic would affect the results of our analysis, and thus condemn us to a lamentable state of doubt as to the perpetration of the crime. It is fortunate, however, that the experiments of our great medical jurists have cleared up this fearful dilemma; for they have proved that the natural arsenical compound is not soluble in boiling the distilled water kept neutral; while, on the contrary, poison introduced into tne system is dissolved and consequently disengaged by this menstruum. The reagents employed in these inquiries are sulphuric and azotic (nitric) acids, potash prepared by alcohol, azotate of potash, (nitre,) water, iron and zinc. M. Orfila shows that the sulphuric acid of commerce sometimes contains arsenic in the state of arsenious and of arsenical acid, which might lead to error; but he also teaches the means of purifying it. The same may be said of nitric acid, if it has not been distilled over nitrate of silver. The potash used in these examinations never contains any; the iron and zinc may contain

some, but it is easy to test them beforehand, and free them from it.

The instruments used in these investigations are cast-iron boilers, porcelain capsules, Hessian crucibles, flasks and test tubes. The boilers will never yield any arsenic to the fluid that they contain, provided it is kept neutral by the addition of potash prepared with alcohol. The porcelain capsules, the flasks and the tubes never yield arsenic; but it is necessary to rinse them with an alkaline solution when they have contained arsenical substances.

Lastly, some earths contain arsenic, and may thus make medico-legal examinations more complicated. However it is easy to test them, and to distinguish the particles of arsenic which they afford from those furnished by the body.

To sum up: the important inquiries of which we have given a short abstract, authorize us to conclude that poisoning by arsenious acid will in future be recognized under all circumstances; and that it will be ascertained without the chance of being confounded either with the presence of arsenical salts naturally existing in the human body, or with the accidental occurrence of arsenical compounds in the tests or instruments used, or in the soil where the body has been buried. In other words, in the memoirs that we have just analyzed, poisoning by arsenious acid is examined under every aspect, and illustrated by such an apparatus of cases and experiments that the irresistible authority of the best demonstrated truths is stamped on the method of which a particular application is described.

To complete this analysis we will add a few words on the employment of venesection in the treatment of poisoning by arsenic. In the first place, is bleeding indicated? It is not long since antiphlogistics were thought to be universally indicated; while, at present, another extreme prevails, and they are rejected almost every where. This is so much the case, that after having formerly combated the absurdity of treating every disease by this method alone, we have now frequently to contend in favor of these powerful agents. Arsenical poisoning is a striking instance in point, yet discrimination is necessary in this as in every other case. If it is meant that in this kind of poisoning bleeding is indicated in every patient, in all circumstances, and in all the phases of its course, the answer is obvious; but no one, we believe, goes so far as this. On the other hand, if any one denys that bleeding is a means of lessening the consequences of this poison, and asserts that it necessarily hastens the catastrophe, and that we ought instead to use stimulants at every stage of the case, he commits a palpable error, which is every moment refuted by facts.

The length to which this article has extended does not allow us to enter into the details of the treatment, which too often is useless.

Before we discuss the different points of this important question, we shall wait till the new experiments projected by the committee of the Academy have thrown some light on the difficulties by which it is still surrounded.

Gazette Medicale de Paris, 17 *Aug.* 1839.

Sir B. Brodie on Calculus.

Dr. Linton writes thus to one of the editors of the Maryland Medical and Surgical Journal of Sir Benjamin Brodie and his treatment of stone in the bladder:

Sir Benjamin Brodie is not eloquent; but he indulges little in that which requires it—theory. All that he utters is worthy of the student's note book, and a place in the memory into the bargain. From his appearance he is not more than fifty years of age; his hair is not at all grey, and what is almost a miracle in the profession in England, he is not bald; eyes grey; figure rather slight and elegant, height about five feet nine inches. I have been listening to him on the subject of calculus, and the means of its removal. He asserted that all stones are primarily formed in the kidneys, except those of the phosphate of lime, and those whose nuclei are extraneous substances, as the end of a bougie, &c.; and remarked that in most instances, when the symptoms of calculi are first experienced, in order to pass them it is only necessary to dilate the urethra by bougies, gradually increased in size—then give active diuretics—make the patient retain the bougie as long as possible, until the bladder is full of urine, then let him stand up and withdraw the instrument. The result will be a large stream of water, with which some, if not all the calculi will pass.

When, however, (as is unfortunately too often the case,) the calculi become too large to be passed in this way, he advises the catheter-shaped forceps, which open after introduction into the bladder. He prefers those invented and used by Heurteloup to those of Sir A. Cooper. In fact he regards the former as one of the greatest inventions of modern surgery. When the urethra is sufficiently dilated, these forceps are introduced and opened, and the stone readily falling between their mandibles, is extracted if not too large—if it is the forceps are the very thing to break it, or rather to crush it. Or

it may, perhaps, be got as far as the bulb of the urethra, in which situation it is a very safe and simple operation to cut down to it and extract it. In order to perform these operations without injury to the bladder, it should contain at least four ounces of water. Women, owing to the peculiar organization of this part, are more amenable to the operation than the opposite sex, and it is well that such is the fact, for in them, the operation of lithotomy, says Sir B., always produces irremediable incontinence of urine.

When, however, there is stricture of the urethra—enlargement of the prostate, or great iritability of the bladder—and these states of the parts, so unfavorable to the operation just mentioned, cannot be removed, then the knife must be resorted to. Sir B. prefers the lateral operation—I saw him perform it on Friday last. He is a slow but a very safe operator—he regards lithotomy as a very hazardous operation. True, he says, a surgeon will sometimes have the pleasure of seeing some dozens of his patients in succession recovering from it, but he will have better luck than falls to the lot of many, if he does not experience sometimes almost the reverse. He remarked that it was not generally known that the great Cheselden retired from the practice of surgery in consequence of the unfortunate termination of a great many of his operations for stone.—*Md. Jour. of Med. and Sur.*

Treatment of Paralysis.—A word in relation to the mode of treating paralysis, practised at this establishment. The spinal column is blistered from the neck to the sacrum, with the ordinary unguentum epispasticum, and the blistered surface is dressed with ungent. hydrag. Regimen according to the habit of each individual case. It is said that great success has attended the practice.—*Ib.*

Case of a child with two heads.—On the seventh day of October, in the year 1836, I was called to visit a lady by the name of McK., who was at that time in labor. On examination the umbilical cord had protruded into the vagina—the pulsation was then very strong. In fifteen or twenty minutes after, another examination was made when the pulsation had ceased, and and the foot and leg advanced. I then made exertion to bring the head forward—to my astonishment, I found the neck of a child with a perfect finger adjoined to the extreme end of it. This being brought down, I discovered the head was large and would be attended with great difficul-

ty in delivering, the woman being very small, with a narrow pelvis. I, however, succeeded in a few minutes in delivering her of a child with two heads, adjoined together at the crowns —the faces reverted, the back of the one coming to the forehead of the other—each precisely alike—the one a perfect child, the other a perfect head and neck, and a perfect finger of common size. The heads measured fifteen and a half inches around, where they were joined, and ten inches long. The mother did extremely well.—*Ib.*

Case of twins in which one had been long dead.—The following evening I was called to visit a lady, by name J., who was in labor. She had been in bad health for several months. I delivered her of a son, healthy looking child, who continues so. I also delivered her of another child which had been dead so long that its joints were separated. The whole body presented a mass of corruption—the skin was not broken.

Ib.

Case of Ozæna, accompanied by frequent paroxysms of Neuralgia Faciei, cured by the Extraction of a Tooth. By Chapin A. Harris, M. D. Dentist, Baltimore.

Mr. S———. a resident of a neighboring county, of a full habit, and slightly disposed to scorbutus, had, for a little more than two years, been subject to an obstinate and distressing affection of the left nasal fossa, and of frequent attacks of pain, which he represented as being at times almost excruciating—commencing immediately over the first left superior molaris, thence shooting back to the angle of the jaw, then to the ala of the nose, inner angle of the eye, and not unfrequently to the top of the head. Ulceration had taken place in the mucous membrane of the affected nostril, and a thin fetid matter, occasionally streaked with pus and blood, was almost constantly discharged, excoriating the parts with which it came in contact. The cavity of the nostril had become so much closed by the thickening of its membranes, that the passage of air through it was prevented; the external integuments had assumed a dark florid appearance, and become considerably tumified and sensitive to the touch.

His teeth having been suspected, though to all appearance perfectly sound, as having some agency in the production of the neuralgic affection, he was directed to a dentist to have them examined, but as none of them exhibited any signs of

decay, it was thought to be dependent upon some other cause. Accordingly the remedial means usually employed for this, as well as those for the other affection under which he was laboring, were prescribed; but from their use, although continued for several months, and under a variety of modifications, he derived no benefit.

His complaints becoming more and more aggravated, he at length became apprehensive as to their result, and determined by the advice of his friends, to visit several of the medicinal springs in Virginia. At one of these, he met with an eminent medical gentleman from one of the northern cities, whom he consulted, but neither from his prescription nor the use of the waters of any of the springs that he visited, did he obtain the slightest relief, and after remaining from home two months, he returned in a state almost bordering on despair.

To add to his affliction, he about this time, began to be annoyed with a constant pain in the region of the antrum of the affected side. This, in connection with a soreness in a tooth immediately beneath, which he had felt throughout the whole course of his protracted and complicated disease, but which had not until now been sufficiently great to attract particular observation, soon led to the discovery of the cause both of the nasal and neuralgic affections, and also to the means by which they were finally cured. The pain in the jaw continuing to increase, and from its resemblance to tooth ache, he was induced, September 9th, 1839, to apply to me for advice. From the description which he gave of it and the other circumstances connected with the case, the belief that the antrum was diseased, and that a morbid condition of some one or more of his teeth or their sockets, had been chiefly instrumental in its production, forced itself upon me. With a view of satisfying myself more fully on this point, I gave his mouth a careful examination. His teeth, at least so far as their crowns are concerned, were all free from disease, but the socket of the first left superior molaris, which was that of the sensitive tooth, was considerably wasted—the tooth itself, particularly its outer and posterior surfaces, thickly coated with tartar, slightly loosened and partially protruded from the jaw; whilst the surrounding gum was inflamed and spongy. The tooth having thus, as it would seem, from some cause or other, become obnoxious to the parts within which it was contained, and as it had no antagonist, its removal appeared to constitute the first and principal indication of cure. To this, upon its being advised, he readily submited. The operation was followed by a sudden gush of thin, fetid matter from the antrum, which communicated with the

socket of the tooth by an opening sufficiently large to admit of the easy introduction of the end of a small goose quill, and a subsidence of pain. The cause of his complicated malady was now revealed. The roots of the tooth were found to be greatly enlarged by exostosis.—*Ib.*

Case of Stone in a Girl relieved by Lithontrite.—Rachel, an orphan child, aged ten years, came in laboring under calculus in the bladder. Her general health had been for some time deranged. The mucous membranes generally were the seat of irritation. Jacobson's lithontrite was introduced and the stone readily seized. The crash of the stone was heard through the theatre. A portion of it came away at the time, and the rest of it in a few days. She had no return of stone, and became robust and hearty.

I am sorry to say this poor little girl died a few days since at the Asylum, of bronchial ulceration and general mucous irritation.—*Ib.*

Mortality in New York, 1839.*—The whole number of interments within the city during the year ending December 31st, 1839, were 7953; being 100 less than for the year preceding.

Of these, 7491 were from among the white population, and 462 were colored persons.

Of the whole number 4389 were males, and 3564 females. This excess of mortality among the male population, as already stated in the reports of interments for previous years, is not easily explained, and is probably much greater than the proportion of male over female residents.

The disparity commences during fœtal existence, as is shown in the table of still-born infants, and continues almost through every period of life.

The average mortality among the foreign population appears to be much greater than among the native citizens. Of the whole number of deaths in persons over ten years of age, 1419 were natives and 1853 were Europeans.

The season of the year most fatal to human life in this city, as shown by the tables, is during the months of July, August

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*From Dr. Walters' Report of Interments.

and September. The season, on the contrary, in which the fewest deaths occur, is during the three months immediately preceding these, namely, April, May and June.

The great mortality in this city among children under five years of age, has long been the subject of remark. During the past year, excluding the still-born, more than half the deaths, or 3696, occurred in children before the completion of their fifth year. The diseases most fatal within this period of existence are, marasmus, inflammation of the brain, hooping cough, measles, scarlet fever, dysentery, diarrhœa, cholera infantum, croup, convulsions, dropsy of the brain, and teething.

The mortality from pulmonary diseases, including in this list all the disorders of the respiratory organs, is nearly equal to one-third of the whole number of interments.

The deaths from pulmonary consumption alone, during the past year, were 1315, being an increase of 90 over the year preceding.

The mortality from pulmonary consumption in this city, may be rated at one-sixth of all the deaths; but the average varies greatly among the different classes. It is worthy of remark, that of those over ten years of age, that die of this disease, more than one-half are natives of Europe. Of the 5564 deaths among the native white citizens, only 610, or about one in nine, occurred from consumption. Of the 462 deaths among the colored population, 132, or one in three and a half, occurred from this disease. And of the 1853 deaths among the European population, 563, or about one in three and a quarter, occurred from the same disease.

The city has been visited by no fatal epidemic during the past year; and, with the exception of measles, the various contagious diseases have been less prevalent than formerly.

The tables show 68 deaths from small pox. The proportion of these that had previously undergone vaccination cannot be ascertained; but as 38 of them, or more than one-half were among children under five years of age, the probability is, that very few of the whole number had resorted to the only efficient means of protection against this loathsome and fatal malady.

American Medical Intelligencer, May 1, 1840.

INTERNAL UTERINE HEMORRHAGE.

Dr. Dunglison copies the following excellent lecture, by J. T. Ingleby, M. D. on Internal Uterine Hemorrhage, from the London Lancet for January, 1840.

On the present occasion I wish to call your attention to the subject of uterine hemorrhage, in one of its most peculiar and imminently dangerous forms—I mean hemorrhage accompanied by a detachment of the placenta, together with an infiltration of blood in its substance, constituting what has been termed *placentary apoplexy*, and arising about the close of pregnancy. It may occur either independently of labor, or whilst labor is progressing. The one object I have in view being to have the matter fully understood by you all, I will enter upon the subject without further preface, studying only plainness and clearness of description.

I have said I wish to call your attention to hemorrhage, accompanied with detachment of the placenta. First of all, then, I would have you observe, that the detachment usually commences *about the centre* of the mass, and extends to every part of it, the edge excepted, which maintains its natural apposition; consequently, a large quantity of blood soon becomes confined between the placental and uterine surfaces. The uterine tumour at these points becomes raised in proportion to the amount of effusion, its rapid augmentation constituting the most striking feature in the case. But it is important to observe that the effusion may commence *any where between the centre of the placenta and its edge*, which almost necessarily becomes more or less detached, so that whilst a large coagulum is confined, partly underneath the placenta and partly exterior to the membranes, the liquid blood continues detaching the membranes until it reaches the vagina: I have seen both forms of hemorrhage. The first, or *concealed* form, from its greater liability to deceive the practitioner than the second, may be regarded as the most dangerous case, although the extent of hemorrhage *in this form* is less considerable than *in the other*. I shall presently state a remarkable exception; but this, as a rule, is generally correct.

Case.—Mrs. B. has ten or eleven children, and was subjected to my professional notice when about nine months advanced in pregnancy. During the night of Friday, Sept. 8, a discharge of blood, both clotted and fluid, occurred several times; and at three oclock, on Saturday morning, my friend Mr. Rice was called to see her. Although she had reached the full pe-

riod of pregnancy, no pain took place until subsequently to the attack of hemorrhage, and the degree of pain which then arose was inconsiderable. The amount of hemorrhage was trifling, three napkins only having been stained, but the depression of the general system had progressively increased, and was at that time most alarming. On examining the uterine tumour, Mr. Rice's attention was immediately directed to a very marked singularity in its shape, the shape being exceedingly pointed, having its long diameter in the antero-posterior direction. I accompanied Mr. Rice to the patient at eight o'clock A. M. There was great prostration of strength, an exsanguine countenance, and the gaping which attends the state of syncope. The pulse was feeble and slow, and the defined eminence which occupied the summit of the uterine tumour, and for some extent around it, was much more elastic than the surrounding parts. Under a strong conviction—a conviction previously entertained by Mr. Rice—that the symptoms depended upon a large internal effusion of blood, I recommended immediate delivery; and, as Mr. Rice entertained similar views of the case, he undertook the operation without delay. Although there had been no regular labor-pain, the uterine orifice was moderately well dilated, and the membranes were sufficiently distended to admit of the bag being very easily ruptured. The circumstance of the membranes being *distended*, deserves your notice in reference to the manner in which the liquor amnii acquired its bloody appearance. On the membranes being ruptured, a large amount of deep colored, bloody fluid instantly rushed out of the vagina. During the delivery of the lower extremities, a quantity of tolerably consistent blood, mixed with small clots, continued to escape, and, on the completion of the delivery, an immense clot was expelled somewhat forcibly. This was rapidly followed by the placenta having, upon its uterine surface, and within about a third of its texture, a mass of coagulated blood. The coagula were so interwoven with the parts as to admit only of very partial removal, and this not without tearing the placenta. The shape of the placenta was sacculated at such of its parts as was not infiltrated, but merely covered by clot, the greater part of the blood having been confined in the sac. Brandy and the tincture of ergot, in combination, were resorted to several times during the delivery with excellent effect in sustaining the pulse, and securing an efficient uterine contraction. The patient would necessarily have been greatly alarmed by the vast disgorgement of blood from the uterus, had we not prepared her mind for the occurrence. As there was no direct escape of blood from the general system,

there was no actual shock; rather, indeed, a revival from impending death to a state of comparative security. The large clot, of which I spoke above, weighed two pounds; and the liquid blood, such as, at least, could be collected, weighed two pounds more. Making allowance then, for the blood which had become mixed with the liquor amnii, as well as for the blood which had escaped on the bed and napkins during the night, the actual loss, within six hours, must have been *upwards of five pounds at least.* It is certain that the uterus contained, at the moment of delivery, upwards of four pounds. I need scarcely say, that under so large and so sudden an effusion the fœtal circulation would very soon cease.

And now, gentlemen, let us inquire what practical inferences can be deduced from this narrative? Let us examine it in several points of view.

1st. *The Mode of Attack.*—The attack occurred *suddenly*, and was not the result of external injury—a very probable *means* of producing not only separation, but laceration of the placenta,* and laceration even of the uterus itself. Each of these injuries I have personally witnessed as the result of physical force, but in this case there was no pretence whatever for supposing the existence of such a cause. The circumstances which occasioned the separation of parts, and consequently the effusion of blood, can however only be conjectured. We can only say, with any certainty, that the effusion must have proceeded from a very large vessel.

2dly. *The Symptoms.*—The symptoms were both *local* and *constitutional.* The former comprising the hemorrhage, which appeared external to the body—the shape of the uterine tumour—the *sensation* imparted to the hand when placed over its most projecting part, (a sensation of undue elasticity when compared with the very slight elasticity which characterized the other parts of the uterine tumour,) and the peculiar character of the pains, the feeling being of distress from distention, rather than of suffering from contraction. Hence it is impossible to resist the conclusion, that the pains arose as a consequence of the effusion. It has been already observed, that the pains were preceded by visible hemorrhage. The

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* The case related by Mr. Wildsmith is a striking instance of this kind. The patient died during pregnancy, and on examination, P. M., a clot of blood was discovered, weighing eighteen ounces, at the anterior part of the fundus of the womb, and the placenta was lacerated.—*See North of England Med. and Surg. Jour.* vol. i. p. 446.

constitutional symptoms were merely those that are common to all severe hemorrhages, viz: torpor, drowsiness, repeated syncope, a pallid countenance, a feeble slow pulse, gaping, and coldness of skin.

I have only one remark to offer, in reference to the depression of the system, viz; that it was very great, and yet altogether disproportionate to the amount of visible discharge. Still the fact of an existing visible hemorrhage would naturally impress the mind with the conviction, that the sinking of the vital powers and the hemorrhage, slight as it was, must have had an important connection. In this respect, the evidence, if not altogether conclusive in the instance before us, was far more conclusive than characterized several fatal cases of a similar kind.

3dly. *The condition of the membranes and the liquor amnii*, is a point not altogether destitute of practical interest. There was nothing peculiar in the state of the os uteri; it was relaxed and partially open, but these characters are common to the uterine orifice at the close of pregnancy, in a person having had several children, as was Mrs. B.'s case. The membranes were apparently entire, the presenting portion being moderately distended with fluid. *The liquor amnii* had a very bloody appearance, and gushed out very forcibly on the bag being ruptured. In its passage through the vagina, it is indeed usual for the liquor amnii to acquire a stain from the blood which may be lodging there, but here the fluid was uniformly bloody, the color being almost as deep as the blood itself. The precise cause of this is not easily explained. The fœtal side of the placenta was perfect, consequently the stain must have taken place, either from a slight tear at the edge of the placenta, (a circumstance which would not prevent the presenting part of the sac from being moderately distended,) or it must have been the result of transudation. I incline to the former opinion, the *period* of transudation having been very short, although the transuding *surface*, from the size of the coagulum, was considerable. Certainly the fact of the liquor amnii not containing coagula may be supposed rather to favor the view last suggested. One is naturally led, therefore, to make an inquiry as to the source of the blood. Did it proceed from the placenta itself, or from the vessels of the uterus in connection with it? What are the probabilities? The placenta was very pulpy throughout, and about one third of the mass, from the edge towards the centre, was so completely infiltrated with blood, as to render the removal of the clots impracticable without breaking up the structure of the placenta itself. *Consequently it was impossible to detect any*

open vessel. I am disposed to think, that the blood proceeded from the uterine system and not from the placental, and I will give my reasons for this opinion. As already observed, the infiltration was very limited in its extent, although it pervaded the whole thickness of the mass. Now, had the blood emanated from the interior of the placenta it could only have proceeded from a large vessel belonging to the umbilical system, and it is more than probable that the *greater part* of the placental mass would have been infiltrated. Moreover, had the case been so, I think the extravasation would have been apparent through the coverings of the fœtal surface. But it was not apparent in any degree. Neither is it probable that the blood, after traversing the interior of the mass, could have retained its fluidity sufficiently long to have passed in such large quantities into the uterine cavity. I can only account for the infiltration by the supposition of a breach of surface having taken place in the placenta, whilst the extent of detachment was slight.

Such is as complete an outline of this remarkable case as it is possible to set before you in a lecture; and, considering the danger young practitioners are in, of forming a wrong judgment upon the symptoms, and the danger of improper treatment to the patient, I do most earnestly press upon you the duty of a careful study of this and similar cases. I will now lay before you all the information I have been able to obtain on this particular kind of hemorrhage, and a case or two not previously recorded. My own work on "Hemorrhage," contains scarcely anything on the subject; indeed the records respecting it are very scanty. Dr. Simpson's elaborate paper, on "Diseases of the Placenta," contains several references to the class of cases immediately before us; I recommend you to peruse this paper carefully. It evinces great research, and is replete with practical information.* Dr. Merriman alludes very briefly to the circumstance, that syncope, or even death itself, may be occasioned by an effusion of blood between the uterus and placenta, whilst "there may be very little appearance of discharge from the vagina." Dr. Blundell, also, in adverting, in general terms, to instances of death occurring suddenly in the last months of pregnancy, observes: "On laying open the body after death, two or three pounds of blood may be discovered within the cavity of the uterus, and this, too, although there may have been no external bleeding." The first case which I have met with is related by the

* See "Edin. Med. and Chir. Jour." for April 1, 1836.

celebrated Albinus,* where only the central part of the placenta being loosened, a large quantity of coagulated blood was lodged between it and the uterus, as it were, in a bag, and, consequently, not a drop was discharged per vaginam. "Had the nature of the case been understood, (observes Albinus,) the patient might have been saved by rupturing the membranes, and delivering immediately." Four cases are related by M. Baudelocque. The mother was saved in three of the cases, but the child perished in each of them. In one of these the quantity of blood behind the placenta was estimated at four or five *palettes*.† Baudelocque relates a fifth case; the hemorrhage, however, took place within the membranes, and not behind the placenta. Two cases are related by M. De Laforterie; the first case terminated fatally, after twelve hours' labor-pain, and before competent assistance could be obtained.‡ M. De Laforterie, however, performed the Cæsarean operation, and, on opening the fundis uteri, a pound and a half of liquid black blood immediately gushed out, which had been contained in a sac, between the placenta and the uterine surface, the centre of the placenta having been detached, while the edge remained adherent. The child was extracted alive, but speedily died. In the second case, the quantity of blood is said to have measured three French *chopines*.‖

Mr. Saumarez adduces a well authenticated, but fatal case, of this form of hemorrhage. There was no discharge per vaginam. On examination, P. M., the placenta was every where detached, excepting its edges, which were "completely adherent, forming a kind of *cul de sac*, into which blood had been poured to the amount of a pint and a half, which had become coagulated within the cavity thus formed." The patient was also attended by Drs. Denman and Denison.§ Dr. Hamilton describes two cases. In the first, premature labor occurred spontaneously. "In the central part of the placenta a strong coagulum of blood, the size of an afternoon teacup, was discovered. The adhesion of the edges of the placenta, had saved the patient." The result of the second case was less fortunate. The symptoms were those of collapse, and

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* "Annot. Acad.," lib. i, c. 10., p. 56.

† The *palette* contains four ounces.—Ed. L.

‡ See "Jour, Gen.," tom. 29, p. 384, and quoted in Mons. C. A. Baudelocque's "Trait des Hæmorrhages Internes de l'Uterus."

‖ The *chopine* contains about an English pint.—Ed. L.

§ See No. 6, "New Lond. Med. and Phy. Jour.," p. 335.

" the lady felt as if she were going to burst; there was no discharge from the uterus, and no symptoms of labor. Immediate delivery was accomplished, by passing the hand into the uterus, and a dead infant was extracted, which was followed by an immense quantity of coagulated blood and the placenta. The patient almost instantly expired."* I now refer you to a very clear and concise paper on this subject, illustrated by a particularly well marked case, by my friend, Mr. J. M. Coley.† The effusion was characterised by a sudden enlargement of the uterine tumour, together with a sensation of pain, as though the abdomen would burst, and by frightful collapse of the vital powers. There was no discharge whatever from the vagina. Delivery was accomplished by rupturing the membranes, and the administration of ergot; and, on the expulsion of the placenta, it was ascertained that blood had been effused, between the placenta and the uterus, to the amount of two pounds, and also extravasated within the placental cells.

I shall now mention two cases which have presented themselves to my notice. Some weeks ago I was requested to see a woman, reported to be in convulsions. Before I could reach the house she had expired—labor was supposed to have commenced the preceding evening. A respectable surgeon employed in the case, finding the pains excessively feeble, and the system much depressed, ruptured the membranes. The liquor amnii was colorless, and no hemorrhage was visible at any time. The body was examined, P. M., by the surgeon just alluded to, assisted by my friend Mr. Wickenden and myself. The form of the uterine tumour was strikingly conical. On cutting through the uterine parietes, so as barely to receive the end of the scalpel—fluid blood rushed out like the stream in venesection. By means of a sponge 60 ounces of liquid blood were collected, and, on enlarging the aperture, a coagulum was removed which weighed 61 ounces, the whole comprising 121 ounces of blood; the placental edge was still adherent, so that there had been no escape of blood underneath the membrane. The circumference of the placenta was inordinately large. The other case, which, in several respects, is unlike the one just reported, derives an interest from the amount of blood being very trivial, and yet proving fatal to life. A young woman, from three to four months pregnant, having just eaten breakfast, went up stairs in per-

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* See " Prac. Observ." part ii., p. 235—6.

† See Lancet for 9th January, 1840, p. 498.

fect health and spirits to make her bed. She returned very quickly, complaining of feeling very ill, sat down in a chair, and expired. An inquest was held, and the body reported to be perfectly healthy. On the close of the inquest, the impregnated uterus was brought to me unopened, as a fine specimen of natural pregnancy. On opening it a portion of clot of blood appeared to view. It had lacerated the chorion to a a very slight extent only; but, on removing it from its bed, between the amnion and the chorion (a most singular situation to contain so large an effusion, of which Baudelocque gives no example, but refers to several examples shown him by Professor Deneux.) it was found to weigh four ounces. A slight stain was also observed on the woman's linen, which from its dampness must have been recently produced. She died in a state of syncope. The nervous system must have received a severe shock at the moment of the laceration, for, of itself, so small an amount of blood could scarcely bring life into danger, even in the sitting posture. The sudden uterine distention might have had an important connection with the fatal depression of the action of the heart. The indications of treatment, in cases attended with a large internal effusion of blood, are very simple, viz: evacuating the uterus and securing its effective contractions. In the form of hemorrhage, termed "accidental," the mere rupture of the membranes is the practice generally pursued, and with marked success—the hemorrhage ceases, and labor presently comes on; but, in an exigent case of internal hemorrhage, the same reliance cannot be placed on this simple operation. The objections are threefold.

1st. The chance of the uterine contractions, either not coming on, or proving inadequate to constringe the bleeding vessels—a highly probable supposition, considering the mass of blood which may intervene between the uterus and the membranes.

2dly. The uncertainty of the period of time which elapses previously to contractions arising.

3dly. The impossibility of determining at the moment, whether or not the hemorrhage is arrested, our opinion being regulated entirely by the constitutional symptoms.

Mr. Coley's patient was treated by the rupture of the membranes merely, and the administration of the ergot of rye; pains came on in three hours and fifty minutes afterwards, and the child was expelled by the natural powers. Mr. Coley was deterred from turning the child by "the death-like state of collapse."

In a case already described, attended with an effusion of 121 ounces of blood, the rupture of the membranes had no effect whatever in producing uterine action, I do not recollect whether or not the ergot was given. Hasty conclusions, derived from solitary cases, are often incorrect, and I would not be understood to say that a case may not occur like Mr. Coley's—the patient being almost *in articulo mortis*—where the milder practice might not be preferable to the sudden evacuation of the womb. Indeed, as I have already stated, Dr. Hamilton's patient died immediately upon artificial delivery. Still, whenever there is reason to believe the hemorrhage is going on, the evacuation of the uterus, by turning the child, should be undertaken at any risk, for it is very probable, that during the time we are waiting for the natural action of the womb, an additional quantity of blood may be gradually pouring out, calculated to terminate life. If this be true, the plug must indeed be a dangerous remedy in such cases, and yet Mr. Baudelocque recommends it as a temporary measure, provided the os uteri is too rigid to admit of the hand. Nevertheless, he enforces the practice of immediate delivery as early as possible, and happily the os uteri will almost always be found abundantly relaxed for the purpose. Sufficient evidence has been adduced to show you the great danger of all cases like the present, and the inevitable consequences of indecision. Had Mr. Rice been a less thoughtful and cautious practitioner, than he is known to be, his patient would most certainly have perished—for like cases of placental presentation, nature is unequal to the emergency, and art has the preeminence. Amidst much that arises to discourage us in the exercise of this most responsible department of medicine, we now and then possess the certain conviction of having been, under Providence, directly instrumental in the preservation of human life—perhaps (as in this case) preserving the life of the mother of many children.

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*On the causes of Sudden Death.—By Alphonse Devergie.** It is the common opinion that apoplexy is the most frequent cause of sudden death. M. A. Devergie has endeavored to ascertain how far this opinion is founded on truth, and has found that sudden death from affection of the brain is rare. Of forty cases which he has examined he has met with four

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* Annales d'Hygiene Publique; July, 1838, and Edinb. Med. and Surg. Jour., January, 1840, p. 242.

only in which death resulted from an affection of the brain; three in which there was congestion of the brain and spinal marrow; and twelve in which the brain and lungs were simultaneously affected. Sudden death from an affection of the lungs alone is the most common. M. Devergie met with twelve cases of this out of forty; and if to these we add the twelve examples of sudden death in which the lungs and brain were both affected, we shall have twenty-four out of forty in which the lungs were affected in cases of sudden death. Death from affections of the heart was the most rare. M. Devergie met with it only three times.

It results from these researches that, if arranged according to the order of their frequency, sudden deaths are occasioned, 1. from affections of the lungs; 2. of the lungs and brain; 3. of the brain and spinal marrow; 4. from hemorrhage; 5. from an affection of the heart. It is consequently an error to regard apoplexy, that is circumscribed cerebral hemorrhage, as the most common cause of sudden death, since in the forty cases M. Devergie observed an apoplectic effusion of blood only once. Sanguineous congestions of the meninges should not be ranked among cerebral hemorrhages. M. Devergie further ascertained that sudden deaths were more frequent during winter, and more common in men than women. Among the forty deaths noted only five were of women. He also observed that sudden deaths occur chiefly among persons from forty to fifty, and sixty to seventy years of age.

Amer. Med. Int., May 1, 1840.

On what Cerebral Alterations does Insanity depend?

This important question is almost answered by an admission of ignorance on the part of M. Esquirol. He offers, however, a general summary of the results hitherto obtained in this inquiry.

1. Malformations of the cranium are only observed in imbeciles, idiots and cretins.

2. Organic lesions of the encephalon or its envelopes have only been observed in those whose insanity was combined with paralysis, convulsions, epilepsy. The lesions belonged to the complication, not to the insanity.

3. The sanguineous or serous effusions—the injections or infiltrations—the thickening of the membranes—the ramollissement, induration, tumors of the encephalon, &c.—all these alterations indicate the causes or the effects of insanity, or rather the effects of its complication with the malady which proved fatal to the patient.

4. The alterations of the thorax, abdomen, pelvic cavity, are evidently independent of insanity. Yet they point out the organ whose alterations first disturbed the brain.

5. All the organic lesions found in the insane have been found in those who have never exhibited insanity.

6. In many instances, examination of the body after death, has led to the discovery of no alteration, although the insanity had existed for years.

7. Pathological anatomy shews us each part of the encephalon altered, or destroyed, without the occurrence of insanity.

8. From all these data we may conclude, *that* the immediate cause of insanity is beyond our means of investigation; *that* the disorder depends on some unknown modification of the brain; and *that* it does not always originate in the brain, but in some of the seats of sensibility placed in the various regions of the body. This may seem discouraging, but if true, should be well known. Perhaps, as M. Esquirol observes, an exact acquaintance with the immediate cause of insanity would not help us much in the treatment of it. Probably, if we were exactly acquainted with the subtle condition of the nervous system which produces pain, we should not be able to lull it one whit better than we do.

Prognosis of Insanity.—Imbecility and idiotcy are never cured

Monomania and melancholia, when recent, accidental, and independent of organic lesion, are curable.

Mania is more curable than monomania and melancholia.

Acute dementia is sometimes cured—chronic dementia is rarely cured—and senile dementia never.

Hereditary insanity is curable, but relapses are more probable than in accidental insanity.

Chronic insanity is with difficulty cured, especially after the second year; the difficulty is augmented in proportion to the length of time the causes have operated prior to the occurrence of the malady.

However long the malady may have existed, recovery may take place while palpable derangements of the corporeal functions exist.

If the moral causes have been sudden in their operation, the prognosis is more favorable, than if they have acted gradually.

If insanity has been produced by excess of study, the prognosis is unfavorable, especially when errors of regimen have been combined with the over-exertion of the mind.

Insanity dependent on religious excitement, or on pride, is seldom cured.

Insanity kept up by hallucinations is very difficult of removal.

When the insane are well aware of their condition, yet are not promptly cured, the prognosis is unfavorable.

When the insane recover their bodily health, yet evince no progress towards mental restoration, we must not be sanguine of their recovery.

When the senses of the insane are so enfeebled that they can look upon the sun without uneasiness, and have lost smell, and taste, &c., they are incurable.

Insanity is incurable when the consequence of scurvy, or epilepsy. Its complication with these diseases and with paralysis is invariably fatal.

Such is the summary of data for prognosis, with which M. Esquirol presents us.

We pass to the *treatment.*

The leading objects are to calm their passions—to remove the mental infirmity or aberration—to remove the physical disturbance. Each case must be studied—the causes of the disease investigated—the character of the patient determined. There is no specifiic treatment for insanity. As the causes of the malady are moral or physical, the means of treatment must be physical and moral too.

Esquirol in Med. Chirug. Review.

The Pellicle of an Egg, an excellent Adhesive Application to Wounds.

The following letter from M. Colquet, we find in a late number of the Bulletin Medical Belge:

To the Editor—

When reading a notice by Dr. Heusner, in Casper's Wochenscraft, of the employment of the pellicle of an egg as an application to recent wounds, I was reminded of an interesting anecdote, told me by a veteran soldier of Napoleon.

It was at the seige of Saragossa, when the town had been given up to pillage, and the only inhabitants that remained, were concealed in cellars and haylofts. No quarters were shown to any one; men, women and children were butchered without mercy.

The soldier, my informant, was not more compassionate than his comrades. He was, however, moved with pity at the sight of a poor infant, which he found lying under its cradle,

and which must have fallen a sacrifice had he not interposed. He took it up in his arms, and was conveying it away to some place of safety, when he received a sabre cut across the face, which nearly severed his nose. The flap hung down upon his upper lip, and the wound bled very profusely.

Fortunately a chemist's shop was near; he went in, and the *pharmacien* treated him with the greatest kindness—"Oh! he was no Spaniard," repeated the old invalid, over and over again, for *he* would have poisoned us. The wound was cleaned, and the detached flap of his nose was brought together: when the bleeding had ceased, he took an egg and broke it, and then separating the pellicle of the shell, he spread this over the nose (en coiffa le nez du soldat.)

At this time the drums beat to quarters; off, therefore, he had to be on the instant; and from that time to the end of the Spanish campaign I forgot, said the old man, all about my nose; and at length when I looked at myself in a glass, "j'etais encore joli gaçron." The scar that still remained shewed that the wound had been a deep and severe one.

Since I was told this story, I have repeatedly made use of the simple remedy alluded to; and, on more occasions than one, I have had to thank the old soldier for the useful hint he gave me.—*Medico-Chirurgical Review.*

Saratoga Springs.—These waters have obtained a prodigious reputation in North America, and are resorted to by myriads of valetudinarians of all descriptions. We see that they are about to be imitated at Brighton, by that indefatigable chemist and mineral water manufacturer, Schweitzer.

The ingredients are potassa, soda, ammonia, lime, magnesia, strontia, protoxide of iron, ditto of manganese, alumina, silica, carbonic acid, nitric acid, sulphuric acid, iodine, bromine, chlorine. This is certainly a splendid bill of fare, but it must be remembered that the dishes are of the most homœopathic dimensions. Thus, in 1,000 grains of the water there are only about five grains and a half of the aggregate medicinal agents—scarcely enough to give the waters a taste or flavor of physic. And of these $5\frac{1}{2}$ grains, 3 are composed of soda and chlorine—nearly 1 of carbonic acid—leaving about $1\frac{1}{2}$ grains for the whole of the other constituents. We have no doubt that all true disciples of Hahnemann will flock to this spring at Brighton, and direct their patients to take, each morning, a drop of this elixir diluted in six beakers of the natural element.—*Ib.*

Dialogue between a Physician and a Physiologist; or Mechanism *versus* Vitalism.

[*Scene a Laboratory.*]

Physician.—Is it true, my dear Magendie, as reported in your lectures, that you can produce *inflammation* in the dead body?

Magendie.—I can.

Physician.—The cardinal points or phenomena of inflammation, as laid down by all writers, from Celsus to the present time, are rubor, tumor, calor, dolor.

Megendie.—Very well.

Physician.—Can you produce *rubor* in the dead tissues, and if so, by what means?

Megendie.—Nothing more easy. I dip the parts in red ink, or inject the *vessels* with red wax.

Physician.—The tumor?

Magendie.—By injecting the *cellular* membrane with warm fluids of any kind.

Physician.—The calor?

Magendie.—I immerse the parts in hot water, or hang them before the fire.

Physician.—Humph! These are very mechanical processes for producing the first three phenomena of inflammation.

Magendie.—Doubtless. But all Nature's processes, in health or disease, are mechanical, quite as much so those by which I imitate her operations.

Physician.—There is one phenomenon more, however, which I think will pose you. How do you produce the dolor?

Magendie.—There you are in the clouds and fogs of vitalism—clouds and fogs by which you strive to conceal your ignorance. Sir I admit the existence of no phenomena or process in the living or in the dead body, but what can be made cognizable to the senses. We have no other inlets of knowl- than through the five senses. Now, sir, I ask you, can you *see* pain? No. Can you *touch* pain? No. Can you *hear* pain? No. Can you *smell* pain? No. Can you *taste* pain? No. Then, sir, what monstrous absurdity is it to talk of a phenomenon presenting itself, you say, in a patient before you, and of which you cannot learn the most minute iota by the evidence of your own senses! Sir, I repudiate, scorn—nay, detest, all those phenomena and explanations which are

founded on vitalism—and thus I throw them to the winds. While pronouncing these last words, with great violence of gesture, and action of his arms, which he waved over his head, he struck his right hand with such force against a lamp which hung in the laboratory, that he roared with agony, and thrust his knuckles into his mouth to mitigate the *pain!*

Physician.—Ah! friend Magendie! what say you to the evidence of the senses now? Here M. Magendie flounced out of the laboratory, and slammed the door in the physician's face, who was following him in a convulson of laughter.—*Ib.*

On the causes of the inadequate protection afforded by Lightning Rods, in some cases, and the means of ensuring their perfect competency; also, a refutation of the prevalent idea that Metals are peculiarly attractive of Electricity; by R. Hare, M. D., *Professor of Chemistry in the University of Pennsylvania.*

In some of our American newspapers, a letter has been re-published from the London Times, calculated, as I conceive, most perniciously to lessen the confidence of the public in metallic conductors, as a means of protection against lightning. In common with many other persons, the author of the letter appears to suppose, that metals are peculiarly attractive of electricity; and infers that, when a metallic rod is attached to a house, or ship, a discharge of electric fluid may be induced from a cloud, which otherwise would not have been sufficiently near to endanger the premises. Nothing, in my opinion, can be more erroneous than this notion. The truth is, that the earth and the thunder cloud being in opposite electrical states, the electric fluid tends to pass from one to the other, in order to restore the equilibrium. The atmosphere being a non-conductor, through which a discharge cannot be accomplished without a forcible displacement of air, any solid body rising above the earth's surface, which may be more capable than the air of transmitting electricity, is made the medium of communication. Metals being pre-eminently capable of acting as conductors, the transmission of electricity is made through them with proportionably greater facility. Yet they do not attract it more than other substances similarly electrified. A glass, or wooden ball, is as readily attracted, by the excited conductor of an electrical machine, as a ball of metal, and as much more than a metallic point, as the superficies of the ball may be greater than that of the point.

Nothing to me appears more unfounded than an idea, lately suggested, that the attraction between a ship and a thunder cloud, can be increased by the presence of a pointed metallic rod surmounting the main mast.

If houses or vessels have been struck with lightning, while provided with conductors, it is, in my opinion, owing to the conductors being improperly constructed; or having no adequate connection with the earth. The power of any body to receive an electric discharge, is dependent on the conducting power of the medium in which it terminates, no less than upon its own. A metallic rod, held by a glass handle or entering a mass of pounded glass, or dry sand, would not be more efficacious as a conductor, than a glass rod similarly situated. If terminated by an imperfect conductor, as for instance by earth or water, its power is reduced in proportion to the imperfection of the medium thus bounding it. This influence of the media, in which conductors terminate, has not been sufficiently insisted upon in treatises on electricity. I should not consider a metallic rod, terminating without any enlargement of surface, in the water or the earth, as an adequate protection against lightning: but were such conductors to terminate in metallic sheets, buried in the earth or immersed in the sea, or *by a connection duly made with the iron pipes, with which our city is watered, or the copper with which ships are generally sheathed*, I should have the most perfect confidence in their competency.

It is not only important that the points of contact between the metallic mass employed to afford lightning an adequate passage, and the earth or water in which it terminates, should be so multiplied as to compensate for the inferior conducting power of the earth or water; but it is also necessary that the conducting rod be as continuous as possible. When conductors are to be stationary, as when applied to buildings, they shonld consist of pieces screwed together, or preferably, joined by solder, as well as by screwing. Where flexibility is requisite, the joints should be neatly made, like those of the irons of fall-top carriages; and should be riveted so as to ensure a close contact at the junctures.

In all cases the ordinary, but important precaution of having the rod to terminate above, in a fine clean point, should be attended to. Where platina tips cannot be had, multiplying the points by splitting the rod into a ramification of pointed wires. may compensate for the diminution of conducting power, arising from rust.

The efficacy of the point or points, is, however, dependent on the continuity of the conductor of which I have already

spoken; since it is well known, that if a pointed rod be cut into parts, so as to produce intervals, bounded by blunt terminations, its efficicacy will not be much greater than if it had no point; because the fluid will, in that case, pass in sparks, instead of being transmitted in a current. It is on this account that I object to chains, or rods joined by loops or hooks and eyes. The error of supposing that a metallic rod must be more capable of attracting electricity injuriously, because of its known wonderful power in transmitting it, will be evident when it is understood that the only difference between metals and other bodies, arises from the superior power of transmission. Hence, when by a defective communication with the earth or sea, the efficacy of the metal, as a conductor, is diminished, or destroyed, its influence over a charged cloud is proportionably lessened. It follows, therefore, that so far as it acts, its action must be beneficial, unless its lower termination should, by an inconceivable degree of ignorance or inattention, be so situated as to render it more easy for the electric fluid to leave the rod, and pass through a portion of the house or vessel, than to proceed, by means of the rod, into the earth or sea.

Thus, Richman was killed by a conductor which he employed to receive electricity from the clouds, and to convey it to an electrometer, necessarily insulated: under these circumstances, the head of the professor being about a foot from the conductor, he became a part of the channel of communication with the earth. Had the apparatus been surrounded by a cage of wire, and this duly connected with a metallic rod soldered to a sheet of metal buried in the earth, Richman might have made his observations with perfect security. That, with due precaution, experiments analogous to his, are not productive of injury to the operatior, is rendered evident by the subjoined quotation from Singer's Electricity.

I must premise, that the apparatus, by means of which the phenomena alluded to were produced, consisted of a wire a mile long, supported and insulated, upon very high poles, and terminating in the house of the electrician, Andrew Crosse, Esq.

"The approach of a charged cloud, produces sometimes positive, and at others negative signs, at first; but, whatever be the original character, the effect gradually increases to a certain extent, then decreases, and disappears, and is followed by the appearance of the opposite signs, which gradually extend beyond the former maximum, then decrease, terminate, and are again followed by the original electricity. These alternations are sometimes numerous, and are more or less

rapid on different occasions; they usually increase in intensity at each repetition, and at last a full dense stream of sparks, issues from the atmospherical conductor to the receiving ball,* stopping at intervals, but returning with redoubled force. In this state a strong current of air proceeds from the wire and its connected apparatus; and none but a spectator can conceive the awful, though sublime ,effect, of such a phenomenon. At every flash of lightning, an explosive stream, accompanied by a peculiar noise, passes between the balls of the apparatus, and enlightens most brilliantly, every surrounding object, whilst these effects are heightened by the successive peals of thunder, and by the consciousness of so near an approach to its cause.

"During the display of electric power, so awful to an ordinary observer, the electrician sits quietly in front of the apparatus, conducts the lightning in any required direction, and employs it to fuse wires, decompose fluids, or fire inflammable substances; and when the effects are too powerful to attend to such experiments securely, he connects the insulated wire with the ground, and transmits the accumulated electricity in silence and with safety."

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* That is, a ball communicating with the earth, by an adequate metallic conductor.

THE

WESTERN JOURNAL.

No's. 2, 3, 4 & 5.

LOUISVILLE, MAY 31, 1840.

OUR DELAY.

Dr. Franklin, or some other sage, has said, that he who is good at an *apology* is seldom good for any thing else. That we may dodge the point of this sarcasm, we shall take care not to make the best apology in the world, for the suspension of our enterprise from January to June. Such as it is—here it comes. When our first number was *in transitu* from the printing to the post-office, some *premonitory symptoms of disease* in the LOUISVILLE MEDICAL INSTITUTE, began to show themselves, and soon became so threatening, that our publishers, with the prudence of sound business men, were inclined from the connexion between the *Journal* and the *Institute*, to lie by, till they should see whether the *forming disease*, was likely to inflict any serious *organic lesion* on the latter. The *morbid action* took its course, the *vis conservatrix* awoke, a *crisis* occurred, *convalescence* followed, and *sound health* is restored. The first fruits of this recovery are four numbers of the Journal at one birth, with the prospect of a regular monthly delivery, for an indefinite time hereafter. D.

EDITORIAL DEPARTMENT.

In establishing this department we did not propose to sit, like Diogenes in his tub, solitary and snarling; but would rather invite in all the friends, who are disposed to enter with their paragraphs of new and insulated facts or passing suggestions and remarks. We have even thought of labelling it with the expressive anatomical term

CONGLOMERATION;

or, exchanging the noun for the verb—(it is always easy to substitute the *word* for the *substance*)—adopt as our motto *Conglomeramus.*

Few of the days of an observing physician ever pass, without presenting him with particular facts, or suggesting doubts on apparently established points, or prompting inquiries on those which are unsettled: It is our wish to make this department of the Journal, a place of deposit for all such *semina*, and we believe, at least hope, that he who sows will find, that he has not cast his seed on barren ground. Such acts of professional husbandry, would improve his mental condition, while posterity would reap, in many instances an hundred fold. The field of science is illimitable, and has varieties of soil adapted to the reception and growth of every kind of germ. We say, then, to our friends—old and young, the ripe and the unripe in science, take up your pens, and put us in possession of your observations. They will be wafted far and wide over the west, as feathered seeds float upon the winds, to distribute equally the bounties of the vegetable kingdom. Interchange of thought is the great secret of improvement; and a community of labor is indispensable to success, in all the sciences which rest upon observation and experiment. We are happy to know that our colleagues of the Institute intend to contribute to *this* as well as the other departments, of the Journal. The contributions of each will be indicated by the initial of his signature. D.

VARIATIONS IN THE QUANTITY OF RAIN—MALARIA.

After two years of drought, it is truly refreshing to have had a long *spell* of wet weather. The snows of last winter were deeper than they had been for years, and the months of March April and

May, brought down an unusual number of copious rains. The Ohio river which began to rise from its long and deep depression in February, continued in elevation throughout the next two months, and in May, overflowed its banks to a greater extent than had happened for the preceding six years, or, perhaps, since the great flood of 1832—when it reached a height not before witnessed since the first settlement of its valley.

This signal change in the humidity of the earth's surface, may be expected to exert an influence on the health of the people; and we earnestly invite our practical brethren, to be vigilant in their observations. Some localities may be more, others, less healthy, in the coming summer and autumn, than they were in the corresponding portions of the two preceding years, when the upper stratum of the earth was dry beyond all precedent. It would certainly be of deep professional interest to have all the facts touching this matter collected and recorded—especially if the work be executed in a proper spirit, that is, with a mind unwarped by any cherished theory of miasmatic diseases.

While on this subject, we cannot omit saying, that a heavy responsibility rests on the physicians of the Mississippi Valley, in regard to those summer and autumnal endemics, which are vaguely ascribed to malaria. We are very far from intimating, that this ascription should be compared to that, which in the dark ages of philosophy, explained the rise of water in a tube exhausted of air (nature's hatred of a vacuum;) but we *do* say, that the cause of autumnal fever, is not made known by the use of the terms malaria and miasma; and that no portion of the peopled earth, affords a better, a more promising field, for researches into the sources of autumnal disease, than that which stretches from the shores of the gulf, to those of the lakes. The man who shall discover the true, efficient cause of those diseases, would, in the immortality of his fame, be placed on the same page, with the discoverer of the circulation of the blood. D.

DEATH FROM SALIVATION IN A CHILD.

Our editorial colleague has received the details of a case of death from mercurial disease of the mouth, which occurred in the practice of one of his correspondents in the State of Missouri. Its publica-

tion entire could not extend our knowledge of the fatal character of the *gangrina mercurialis* of children, and we, therefore, notice it merely as as a warning—a renewed admonition against the excessive, and above all the *protracted* administration of calomel to children, before the time of puberty, and especially within the first climacterick. The patient, in this instance, was a girl of "delicate constitution," seven years old, affected with dysentery. The whole quantity of calomel given was about sixty grains; in small doses, some of which were administered *after* the patient's gums began to feel sore. This, considering the *age* of the patient, was, it must be admitted, in violation of the rule of safety. Nevertheless, the gentleman, who has thus had the courage and candor to report a sinister result of his own practice, did nothing more than what others are accustomed to do—generally, with impunity, but sometimes with fatal effect, or with what is scarcely less to be dreaded, permanent deformity. D.

COMMERCIAL HOSPITALS IN THE WEST.

We are glad to find this subject revived in Congress, after a sleep of more than two years. It now comes up in the form of a letter from Dr. Lawson, Surgeon General, U . S. A., to the Secretary of War, which letter was lately transmitted to the Senate, by the President, in a special message.

It seems that in 1837, a commission of three army surgeons, of which Dr. Harney was president, made a selection of seven sites; but where does not appear in the documents before us. Land was purchased at each place, and deeds, in the nature of escrols, were executed to the government; but no money paid, and the bargains were liable to be annulled by said Government. It has not, however seen fit, either to confirm or annul, and there the matter rests.

In the clangor of partisan warfare, it is not always easy for the voice of suffering humanity to be heard; however, we do not despair. True it is, the President has *not recommended* the appropriation necessary to these purchases, but the Secretary and Surgeon General have done *their* duty, and we may hope for the best. Let the latter speak for himself:

"The claims of those untiring and intrepid sons of the West, who from the heads of the Alleghany and Monongahela, and from the

banks of the Ohio and other concurrent streams, voyage it to the lowest point of navigation in our western region, and of those hardy and equally adventurous spirits, who from the upper Mississippi and Missouri, sweep the western waters to the very verge of the ocean, cannot be resisted. Sooner or later the cries of their suffering comrades, who in braving the dangers of fire and water, of clime and country, for the general welfare, are frequently stricken down by disease and accident, will be heard and must be heard. Let us, then, in obedience to the dictates of humanity and of common justice, call upon Congress to extend, at once, a helping hand to this much to be admired, yet little cherished band of navigators; nay, to dispense to them, and with a liberal hand, the willing offerings of a nation's gratitude."

We earnestly commend this subject to our brethren in the West, as one every way entitled to their consideration. D.

PROPOSED REMEDY FOR SPINA BIFIDA.

The general failure of the existing methods of treating Spina bifida, may justify the suggestion of a new and different treatment. We beg leave to propose to the consideration of our brethren the following:

Let the cyst be emptied by a puncture, and then fill it with blood from the brachial vein, or temporal artery of the little patient. If practicable, cause the blood to flow from the vein or artery, into the sac, without cooling or being exposed to the air. If a small portion of the serum naturally contained in the cyst be left in its neck, none of the injected blood will enter the spinal theca. The mass of it will coagulate, its serum and coloring matter will be absorbed, or may be drawn off by a puncture, and the coagulated or concrete fibrin left behind. As fibrin thus situated, is susceptible of organization and adhesion to the surrounding tissues, it may be expected to undergo those changes in the cyst; and, according to its quantity, contribute to fill it up with solid matter. A second or third injection might be practised if necessary. In this way, would not a solid tumour take the place of one composed of serum? Might not the spinal orifice be thus closed up? And would not the tumour be gradually absorbed, at least in part? On principle, we do not see why this method should not be both safe and successful. It may be predicted, that it

would excite a dangerous inflammation. But have we not many examples of extravasation of blood, into serous and cellular cavities, even into the substance of the brain, without any dangerous irritation of the surrounding parts? Undoubtedly it would be pernicious to inject the sac, with any dead and foreign fluid, capable of hardening, but a mass of organizable fibrin, must not, in its effects upon the serous lining of the sac, be compared with a lump of unorganizable matter. Should any of our readers meet with a case of spina bifida, among our domestic animals, we hope they will give this method a trial; and should they have a case of the same kind, in a child, which had resisted the usual treatment, and was likely to prove fatal, why should not this method be employed?

The blood might be taken from another young subject, than the patient. It should be caused to flow through the inverted intestine of a fowl; or be received into the inverted bladder of a recently killed animal, immersed in warm water. The less its contact with dead matter, the greater the probability of its becoming organized in the sac.

We hope to hear that some of our readers have tried this experiment. D.

PRODUCTION OF CASTOR OIL IN ILLINOIS.

Having lately had occasion to spend an hour at the village of Chester, one hundred and twenty miles above the mouth of the Ohio river, on the Illinois bank of the Mississippi, we learned from Dr. Ferris, the following facts, concerning the manufacture of castor oil in the neighborhood of that place.

About seven years ago, Richard B. Servant, Esq., introduced into Randolph county, near the town of Chester, the cultivation of the castor oil plant, *Ricinus communis*, and it has since spread over that and the adjoining counties—Washington, Franklin and Jackson. It is cultivated on their upland soils, and ripens before the frosts of autumn set in. From twenty-five to thirty bushels per acre, are obtained. It is planted and tilled in the same manner as Indian corn. A bushel of the beans yield from six to eight quarts of oil, which is obtained by cold pressure. A mill for its manufacture, was lately burned down in Chester (and will be rebuilt,) but,

three others are in operation in Randolph county. Dr. Ferris exhibited to us a specimen of the oil, eighteen months old, which was limpid and of the characteristic odor. The Doctor assured us, that it was as active and unirritating as any he has ever prescribed. The quantity exported from Chester, is so great, as to surprise us. The crop of 1338, was such, that one thousand barrels were sent off in 1839; while the produce of that year, was sufficient to give for 1840, at least twelve hundred; worth to the manufacturer from a dollar to a dollar and a quarter a gallon. It is sent not only to all the principal towns of the west and south-west, but to the eastern cities. When we recollect, not many years back, the importation of *rancid* oil, in bottles, from beyond the mountains at an enormous expense, we cannot but regard the citizens of Illinois, who have effectuated this enterprize, as public benefactors, while they have made it a source of wealth to themselves. D.

PATHOLOGICAL MUSEUM.

The undersigned, professor of Pathological Anatomy in the *Louisville Medical Institute*, being engaged in founding a cabinet of morbid specimens, respectfully solicits contributions to it from his brethren in the west. They may be sent in alcohol, or a solution of corrosive sublimate, or even in proof spirits, when they are not of a kind to be dried. In all cases, they ought to be accompanied with notes of the disease by which the patient or the animal was destroyed. When placed in the Museum for permanent preservation and exhibition, they will be labelled with the names of the donors. The extensive water communication which the city of Louisville maintains with all parts of the west and south, is highly favorable to the transmission of specimens, which may always be done, at the expense of the Institute. D.

MEETING OF THE PHYSICIANS OF NORTH-EASTERN KENTUCKY.

We have been favored by Dr. Duke of Maysville, with a printed copy of the proceedings of a convention of the physicians of Mason, Bracken and Fleming counties, held at Washington on the 22d of November last. The object of our brethren, in thus coming to-

gether, for the first time, seems to have been, to make each others personal acquaintance, to cherish fraternal feelings, and to adopt for their government, as neighboring practitioners, a system of medical ethics. The officers of the convention, were Dr. Nelson, President, Dr's. Johnson and McDowell, Vice-Presidents, Dr. Lawson, Secretary, and Dr's. Sharp, Taliaferro and J. Shackleford a Standing Committee.

Without attaching any very great importance to rules of professional etiquette, which the honorable observe without their being written down, and the dishonorable never hesitate to infringe, although pledged to observe them; we cannot too strongly commend the example set by the medical gentlemen of the north-east corner of our State, and hope to see it imitated by the physicians of other sections of Kentucky, and of the western States generally. Greater professional an dsocial intercourse, than has hitherto existed would contribute to promote the harmony, raise the dignity and augment the influence of the profession; while it could scarcely fail in a short time, to inspire many who now languish in intellect, and loiter in action, with a new spirit of emulation and improvement. The following was one of the most important resolutions adopted by the meeting:

"*Resolved*, That this Association respectfully urge upon the physicians of Kentucky, the expediency of forming district and county societies, for the promotion of medical science; and also, that a State convention be held, in Frankfort, on the second Monday in January, 1841, for the purpose of organizing a State Medical Society."

D.

NATIONAL MEDICAL CONVENTION.

At the second general Convention of the physicians of the State of Ohio, assembled at Columbus, on the first Monday of January, 1838, the following resolutions were unanimously adopted:

1. *Resolved*, That in the opinion of this Convention, the sessions of the different Medical Schools, throughout the Union, are too short, and that they ought to be extended one month, and the students required to stay to the *end* of the term.

2. *Resolved*, That the number of Professorships is too few, and that ampler provision should be made for teaching Physiology, Pathological Anatomy, Pharmacy, and the Natural History of Medicines, Botany, comparative Anatomy, Meteorology, Medical Jurisprudence, and Mental Physiology.

3. *Resolved*, That, if practicable, our Medical Schools should be so organized, as that Students, in their first course, would have their attention chiefly directed upon special Anatomy, Physiology, Chemistry, Pharmacy, and the other elementary branches; and their second upon Pathological Anatomy, Therapeutics, the practice of Physic, Surgery and Obstetrics.

4. *Resolved*, That in admitting Candidates to examination for degrees, a stricter regard than is at present shown, should be had to their preliminary education.

5. *Resolved*, That the practice of graduating young men before they are 21 years of age should be abandoned.

6. *Resolved*, That no Pupil ought to be graduated before the end of four years, from the time he commenced the study of Medicine.

7. *Resolved*, That, if the various Schools of the Union, were to send representatives to a meeting at some central point, to confer together, many of their existing defects, by a simultaneous, co-operative effort, might be successfully remedied, and that we, respectfully, recommend such a Convention to be held. Till when it would not be practicable, nor should it be expected that any single institution will attempt the reforms which are here proposed.

8. *Resolved*, That the corresponding Secretary be instructed to send a printed copy of the proceedings of this Convention, to all the Medical Institutions of the United States, with a letter, calling the attention of their Professors to these Resolutions.

Subsequently, without seeing fit to refer to these proceedings, the Medical Society of the State of New York, proposed a convention to be holden in the city of Philadelphia, on the 12th of May, 1840. As far as we have been able to learn, but few of our schools have selected their representatives to this meeting. But what excuse can they make for the omission? Is it not undeniable, that great and radical defects exist (we speak not of professors) in all of our institutions? Defects and errors, which depress the profession, are easily removable by concerted efforts, though incurable, by the exertions of any single school? Is it not universally admitted, that our sessions are too short, and that in many of our Colleges the number of Chairs is too few? These evils are certainly remediable, and their correction would be instantly followed by an elevation of character, in the younger members of the profession.

In the Medical Library for May, Dr. Dunglison states that this convention turned out an abortion. He says "not even the mover of the resolution in the Medical Society of the State of New York was present, and but few delegates presented themselves, among whom was Dr. Beck, of Albany—the well known author of the best book we possess on Medical Jurisprudence." Thus an object of universal in-

terest to the profession is for the present defeated. We trust, however, that it is but a temporary defeat, and that the advocates of a higher standard of medical education in the United States, will soon meet together and remedy the defects of which all complain. The time for reform has assuredly arrived—the cry for it comes up from all parts of the country. D.

CASE OF TRIPLETS.

William C. Lawrence, M. D., of Cincinnati, has sent us a memorandum concerning a case of *triplets*, from which we condense and record the following facts: The patient was a mulatto, who, for two weeks before delivery, was annoyed with spurious labour pains. At 8 P. M., Dr. L. could discover no dilation of the tincæ, and administered opium. Six hours afterwards he was called, and found the first child just delivered and the cord cut. The next presented with its feet and was delivered forthwith. The third presented one foot and one knee, and was delivered without difficulty, but was asphyxiated. By artificial respiration it was restored, and up to the date of the communication, two months, the whole were alive and growing well, under the double supply of the breast and the spoon. The children, two males and one female, were nearly of the same size, and weighed in the aggregate, 17 lbs.

The three placentæ with their membranes, were distinct from each other, and came away without difficulty; but the hemorrhage, as might be expected, was considerable. D.

CASE OF ANASARCA.

Dr. Millikin of Courtland, Alabama, has transmitted to us the notes of a case of anasarca, apparently of malarious origin, and very inveterate in its character. We do not think it entitled to publication in detail, but derive from it two clinical facts, which, although not new, are worthy of being noticed. *First.* The patient was *twice* subjected to a salivation, but without any other effect, than that of prostrating her strength. *Second.* She was cured by the persevering use, three times aday, of the following, *non*-mercurial, *recipe*.

℞ aloet. socot. pulv. gr. j, pulv. jalap. gr. ij. scil. maritim. gr. j. Mix and make one pill.

During the use of this simple compound the patient drank freely of a cold infusion of slippery elm bark, and a decoction of elder blossoms alternately. At the close, the debility was successfully met with vegetable bitters and mineral acids. D.

MONSTROSITY.

A distant correspondent, laudably desiring to appear among the *lions* of our Journal, has sent us an account of a case, in which a woman, during gestation, was so frightened by the roaring of a lion in a menagerie, that she was afterwards delivered of a "little lion, marked, as the lion was, with a sore on its back, covered with hair." We hope to make this *lusus naturæ*, the head *lion* of our Cabinet of Morbid Anatomy, and shall give a detailed anatomical and physiological description of it *as soon as it is received.* D.

BALTIMORE COLLEGE OF DENTAL SURGERY.

We have received the "*First Annual Announcement*," of the Board of Visitors of an institution under the above title, in the city of Baltimore. The venerable Dr. Thos. E. Bond, is at the head of the Board, which embraces many respectable gentlemen, both in and out of the profession.

The faculty consists of,

Horace H. Hayden, M. D., Prof. of Dental physiology and pathology.

H. Willis Baxley, M. D., Prof. of Anatomy and physiology.

Chappin A. Harris, M. D., Prof. of Practical Dentistry.

Thos. E. Bond, Jr., M. D., Prof. of Special Pathology and therapeutics.

We should have greater faith in the success of this very laudable undertaking, if the number engaged in it were less. A charter has been obtained, and as far as we know, this is the first attempt to found a school of instruction for this particular branch of the profession, which has been made in the United States. That such a school is much needed, no one will deny, who knows that in most of our regular medical colleges, the diseases of the teeth are scarcely

mentioned. The course of instruction will commence the 1st Monday of November, and continue four months. We observe that a charter has been obtained, and that the visitors are authorized to confer the degree of Doctor of Dental Surgery. This novel enterprize has our best wishes, and we shall be happy to contribute all that may be in our power to its permanent establishment. D.

CLARENDON SPRINGS, VERMONT.

Gentle reader in the west, do not be startled at the notice of a mineral water among the Green mountains. If you have a *sick* patient who wishes to escape from the heat and vapors of the southwest, to breathe an invigorating air, through the dog-days, why should he not go to Vermont, as well as New York or Virginia? Especially if he should find there, a different water from any to be found elsewhere in the United States? Mr. Hayes of Roxbury, Massachusetts, has analyzed this water, and finds it freer from *solid* ingredients, than common river water, but it abounds in *carbonic acid and nitrogen gases;* one gallon of the water containing 46-16 cubic inches of the former. It has therefore, a decidedly acidulous character; and closely resembles the SPA waters of Germany, which have long been celebrated in cutaneous affections. Dr. Gallup to whose pamphlet (1840,) we are indebted for our information, informs us that, little known as the Clarendon springs are, there is not wanting a considerable mass of evidence of their utility in cutaneous and urinary disorders; and that many of the cases cured by them, were from Mobile and other places in the south. This then may be one, and a new summer asylum for the invalids of the south; and we shall offer in the next paragraph, a compensating winter retreat for invalids of the North. D.

WINTER RETREAT FOR CONSUMPTIVES.

Some time since we received a letter from Dr. John L. Sullivan, of New Haven, Ct. accompanying a public printed communication to the physicians of New England on the peculiar fitness of the *south* side of the Island of Cuba, as a winter residence for the consumptive. The small city of *Trinidad* is most eligible.

"The peculiarities of this locality justify this preference. The town is situated on the south side of a range of mountains from east to west, on elevated ground four miles from the sea. It is built of stone, and is paved, and it is watered by a clear and *rapid* river that flows near. Thus sheltered from the north winds by these high mountains, that intercept and attract the moisture of the sea air, it enjoys a peculiarly dry elastic atmosphere, of an equable and mild temperature. As a proof of it, exercise can be borne by invalids without causing debility.

This place can be reached by a voyage direct; vessels are often going out; or, by the way of the Havana, from whence there is already a rail-road, thirty miles out of forty-two, towards the town of Batabano; and thence a steamboat runs within islands to *Casilda*, its sea-port. Besides that, British steam ships of the larger class, are soon to run between New York and the Havana.

This facility of communication permits us to consider Cuba as accessible by sea as the southern ports, and from New Orleans and Pensacola very accessible from the Western States."

Convinced as we are, that the States of Louisiana, Alabama and Georgia, offer but illusory retreats for the consumptive, for a great part of the winter being too cool and damp, we must, until tropical Florida can be prepared and openened to our patients, advise them to go beyond the United States. In doing so, it is, obviously, better to choose the south than the north side of that island to which most of them necessarily go, and too often return in no degree benefitted. D.

MEDICAL SOCIETY OF STARK COUNTY, OHIO.

We hail with pleasure every associated effort of our brethren, for the *principle* of voluntary concert is correct. We have before us the proceedings of the physicians of one of the central counties of Ohio, at a meeting held on the 27th October last, in Canton. A Society was formed, and a code of ethics adopted; from which we extract, with unalloyed gratification, the following rule of professional duty:

"Physicians should never neglect an opportunity of fortifying and promoting the good resolutions of patients suffering under the effects of intemperate lives, and vicious conduct: and, in order that their counsels and remonstrances may have due weight, it will be readily seen, that they should have full claim to the blameless life and high moral character, which we have stated to be a necessary requisite to an honorable stand in the profession."

The spontaneous adoption of such an obligation, is evidence of

sound moral feelings, and prevalent sobriety among the gentlemen composing the profession of that county. But justice requires us to say, that in these respects they are not preeminent, as it is unquestionably true, that throughout the entire west, the temperance and general morality of our physicians, are on the increase. Drunkenness, profanity, gambling and infidel boastings, are fast falling into discredit, and seem likely, at no distant time, to be regarded as utterly unprofessional, and even infamous. All the effects of this reformation will be salutary; for an increased devotion to *intellectual* improvement, can never fail to ensue, upon the repudiation of dissolute amusements.

The officers elected at the first meeting of the society were Dr. WHITING, President; Dr. WALLACE, Secretary; Dr. DOLBEAR, Treasurer, and Doctors ESTEP, PRESTON, BROCKENBUSH, DOLWIGH and BOWEN, Censors. D.

CURE OF A DEAF MUTE, BY PUNCTURING THE MEMBRANA TYMPANI.

Dr. Prosser, of Jacksonville, Illinois, has sent us an authentic newspaper account of the sudden and permanent acquisition of the sense of hearing, by a congenital deaf mute, Mr. J. Washington, of Winchester in that State, from a puncture by his own hand, of the membrana tympani of one of his ears. Mr. W. is an educated man, and understood, perfectly, what he was about to do. He states, that in making the puncture, with a lancet pointed instrument, concealed in a canula, he had to pass through *two* membranes, one of which he regards as exterior to the head of the drum, and altogether abnormal. If this be a fact, it is probable that his deafness did not depend upon obstruction in the eustachian tubes, and that the puncture of the exterior would of itself have been sufficient. The following is his own account of what followed on the operation:

"The pain of the operation combined with the sudden admission of air, like a peal of thunder, immediately threw me into a series of spasms, and for that night my fate seemed suspended like a pendulum, 'twixt life and death; but by the attention of Doctor Wilson and others, I have so far recovered, as to be able to prosecute the study of elocution, under N. M. Knapp, Esq.

One or two little things struck me at the time as peculiar; one of which is, that all inanimate things contained within themselves latent sounds, which might be produced by striking them—another is,

that before the operation I could remember the exact expression of my own face, so as to compare it with others, and draw comparisons between them, but since then it is impossible for me to recollect my own countenance. I account for it from the fact that mutes have always a statue-like, stolid, asinine, imperturbable look, but now there is an ever varying, undefinable meaning, that cannot be retained in the mind; another is loss of powers of application, and although the memory of events or things that happened before is as good as ever, yet it is extremely difficult to remember what has passed since the operation." D.

EDUCATION OF THE DEAF AND DUMB.

In natural connexion with the foregoing case, we are led to notice our western institutions for the education of deaf mutes. They are two in number, the older in Danville, Kentucky, the younger in Columbus, Ohio. The former, however, seems to have attracted less attention, and to have grown less rapidly than the latter, and we have not at hand, any recent accounts on its condition.

"*The thirteenth annual Report of the Trustees of the Ohio Asylum for the year* 1839," has, however, been sent to us and must receive a moment's notice.

The number of its pupils is seventy-two—of which, at this time, one is from Pennsylvania, one from Michigan, one from Indiana and one from Louisiana, all the rest from Ohio. The population of that state is estimated at a million and a half, which gives about 22,700 to each of the scholars, sent by her to this school; but the proportion of deaf mutes must be much greater, as there is reason to believe that not a fifth part of that unfortunate class are sent thither. In the catalogue for 1839, seventy-two names are printed, of which we find that forty-one are males and thirty-one females. This remarkable difference, must not be received as evidence that there are in the State more deaf male, than female children—except so far as there are more male than female births; for a greater proportion of the former than of the latter are sent from home to be educated. Appended to the name of each pupil, is the name of the disease, as far as it can be made out, which occasioned the deafness, and the reader will perhaps share in our surprise, at learning that but twenty-six, less than one-third of the whole, were born deaf—of the rest, ten are marked as uncertain or unknown, which added to the con-

genital deaf make exactly one-half of the aggregate. Of the twenty-six congenital mutes, fourteen are males and twelve females; of the ten marked as unknown, but classed by us with the natural deaf mutes, six are males and four females. But let us take up those in whom the deafness was the manifest offspring of disease after birth. These make thirty-six or one-half of the whole, and may be classed as follows: Inflammation, dropsy and other affections of the head, eleven—fever, eight—sickness, six—colds, four—and small-pox, measles, scarlatina, whooping-cough, cutaneous disease, swellings under the jaw, and coffee in the external ear, each one—thirty-six, of which twenty-one are males and fifteen females. Thus it appears, that while the number of the congenital mutes is, in reference to the two sexes, nearly the same, or as fourteen to twelve, the number of deaf males from disease, is to the other sex, as twenty-one to fifteen. If an equal proportion of the two sexes were sent to the Asylum, these statistics would show, that more boys than girls become deaf, from the diseases of childhood, which indeed, we should, a *priori*, expect to be the case, inasmuch as they are more exposed to the remote causes of those acute diseases of the head which so often terminate in this infirmity. At this point of our little analysis, we cannot forego one or two practical observations.

First. The excessive use of animal food by indulgent parents, who make no distinction between the constitutions of children and adults, is unquestionably one cause of the frequency of inflammatory affections of the head.

Second. The use of caps, and warm hats and bonnets, in infancy and childhood, is another custom contributing though in a less degree to the same result.

Third. The omission of blood-letting, in the cerebral, and catarrhal diseases of the same class of patients, when the symptoms require it, because of the difficulty of performing the operation, is another and most prolific cause of the same sinister effects. If the aggregate of the children, lost or permanently injured by this omission, could be made out, the catalogue would be appalling. How many die of inflammation of the brain and its membranes, who might be saved by the timely use of the lancet! How many tedious ulcerations of the external auditory passages might not be warded off by the same treatment! What is the ear-ache, the great scourge of childhood nine times out of ten, but an inflammation, which is treated, ten times out of eleven, with stimulants and narcotics!

The following paragraph from the report of Mr. Hubbell, the teacher will be read with interest by physiologists:

"The most important item of information respecting our Ohio Deaf and Dumb, that has been elicited since the publication of our last annual report, is, the existence of a large number of mutes in a particular neighborhood in Highland county. Their number is sixteen, and are found between the ages of two and fifty, though they are almost between the ages of three and twenty. They were all born deaf, and are six males and ten females. They are all so intricately connected by marriage and birth that it is difficult to describe their consanguinity. They are all uneducated, of German descent, and no applications have ever been made for the admission of any of them into the Deaf and Dumb Asylum. For the above information I am indebted to the politeness of David Fenwick, Esq., of Mourytown, Highland county."

It is no part of our plan to give an account of the methods of instruction and discipline pursued in this Asylum, which is so honorable to the State which founded and sustains it, but having seen much of its internal economy and the progress of its pupils, we must be allowed to express our very high approbation of both. The superintendent and principal instructor, Mr. Hubbell, is not only a gentleman of great urbanity, but devoted heart and soul to his duties. D.

REVIVAL OF MEDICAL INSTRUCTION IN EGYPT.

Egypt seems to have been the birth place of medicine and her priests the first authorized prescribers. If they departed from the rules, derived from Osiris, or some other god, and the patient died, capital punishment was the consequence. No improvement was, of course, made under this system. Long afterwards, a different kind of medical science found its way into Alexandria, where many Greek and Arabic teachers of considerable distinction, made that famous city an emporium of the sciences. In the progress of time, this second epoch passed away, and a long night of ignorance and barbarism followed. The nineteenth century has seen this obscuration dissipated, and a third era commence. Both the science and the professors, are now from the west of Europe, and we may anticipate for Egyptian science much more than a mere revival. The present century will surpass the brightest Arabic epoch, for Mohammed Alee will soon have a better school, than the Ptolemies ever erected. The following notice of this new experiment, from

Wilde's Yachting Expedition along the shores of the Mediterranean, will be read with interest, by all who have perused the ancient history of our profession. D.

"*The Pacha's College and School of Medicine.*—I was next transferred to the care of Dr. Sicher, who conducted me through the college and school of medicine, which, as I before stated, forms a part of the building of the hospital, so that the student has but to cross the court from his dormitory to the ward, and can proceed from thence in a few minutes to the dissecting theatre or lecture-room, become acquainted with materia medica under the same roof in which he sleeps, and enjoy his morning's walk in the botanic garden beneath his window. Besides this, they are all required to become acquainted with practical operative chemistry; and for that purpose are sent for a certain time to work at the chloride of lime and saltpetre manufactories. This system, added to that of the general medical education here given, is one well worthy of imitation in Great Britain, and reflects no small credit on its founder, Clot Bey.

"At the date of my visit there were three hundred students in the college, who were fed, clothed, educated, and *paid* by the Basha. The dormitories and other apartments of these young men were clean and airy, and they themselves appeared orderly and attentive. They all wear a uniform, are regularly drilled as soldiers, and rise in rank and pay according to their proficiency. The pay varies from twenty to fifty piasters a month; and they are allowed out of the college once a week on the Sabbath.

"The nominal duration of study is five years; but the greater number are drafted off into the army or navy after three years: some few remain as long as seven.

"The school of medicine consists of seven professorships, viz: anatomy and physiology, surgery, pathology and internal clinique, pathology and external clinique, medicine and chemistry, botany and materia medica, and pharmacy. Instruction is given by means of an Arab interpreter or dragoman; the professor writes his lecture, and it is translated to the class by the interpreter. The majority of the professors are French, and the salary is somewhat more than £200 a year. They are all obliged to wear the Egyptian uniform and shave the head, but no sacrifice of religion or principle is demanded; and I need hardly remark that all Europeans, or Christians, are under the protection of their respective flags; and, should they be convicted of any misdemeanour, must be handed over to their Consul.

"The laboratory contained a good chemical apparatus, and the dissecting-room several subjects. This latter indispensable requisite to medical education it would be scarcely worth mentioning, but that it occurred among a people whose strong religious prejudices prohibited even the touching of a dead body in some cases, and the introduction of this novel science was one of the most difficult

things Mohammad Alee had to enforce for a long time. He in the first place referred it to the priesthood, who obstinately set their faces against it, declaring it utter incompatible with the religion of the Prophet of Mekka. The Basha's answer, that it was his royal wish and pleasure that they should legalize the act, and that, if they did not speedily do so, it was more than probable they themselves should form material for the first experiment in this branch of the practical sciences, soon brought them to reconcile their prejudices with his unbending will."

PROFESSOR ESPY'S LECTURES ON METEOROLOGY.

The West has lately been visited by this distinguished Meteorologist, who lectured in New Orleans, St. Louis, Louisville, Cincinnati and Pittsburg. Mr. Espy's main object is, by the aid of diagrams and experiments, to explain to the people, or at least the intelligent and inquiring portions of them, his philosophy of rain and storms; that they may be incited to make such observations, as will demonstrate the truth of his theory. We had not the advantage of hearing more than two of his prelections. The *first*, comprising his data, was uncommonly interesting to the whole audience; the *second* seemed to us rather recondite for the popular mind, and had, moreover, a minuteness of detail, for which a mixed audience is not in general prepared. At some future time, we hope, to be able to present a full view of Mr. Espy's system of meteorology, and shall, therefore, at present limit ourselves to the annunciation of his great principle. It is, that caloric, acting in and upon the atmosphere, is the efficient cause of dew, frost, fog, haze, clouds, rain, hail, snow, winds and tornadoes. We may cite one example: When the air over any particular place becomes heated, ascends, and, under diminished pressure expands, this expansion by cooling it condenses its moisture and forms clouds, which fall in rain—the winds meantime blowing towards the spot from all directions. Such being the origin of rain, it is certainly, *in theory*, possible to produce it by artificial heat. It was the annunciation of this *possibility*, as a *practicability*, that startled so many minds, and for some time brought the ingenious author into philosophic discredit, with those who did not understand the principles from which his conclusion was deduced. Wherever Mr. Espy has lectured he has attracted much attention to this beautiful department of natural science, and made many converts. We un-

derstand that it is his design to attend the meetings of the British Association at Glasgow the ensuing autumn. D.

A HAIL STORM.

On Friday, the 8th of May, about half past 5 in the afternoon, the southern part of the city of Louisville and the adjoining suburb, were visited with a thunder gust, on which we made some observations, strongly confirmative of professor Espy's theory of storms.

After a cool morning, the day became rather oppressively hot, and between four and five, P. M., a cloud was seen forming in the west. Placing ourselves at a southern chamber window, we waited its growth until it extended quite to the horizon in the east. West of our meridian the wind at the surface of the earth was to the east, and such was the course of the clouds; over our heads, the lower clouds passed rapidly to the south, while in the eastern part of the heavens, they moved to the west and south-west. Thus it could be distinctly seen that they concentrated south of us, where they soon exhibited an extensive black mass, which, reaching to the horizon on that side, prevented, no doubt, our seeing any of them coming to the common centre from that quarter. Here then were all the phenomena, which Mr. Espy's theory demands—phenomena which conclusively show, that there were horizontal currents from without inwards, and they could only have been generated by upward currents, from the spot to which they tended. These clouds, presented in the west, the peculiar dull, greenish hue, which so infallibly indicates approaching hail; and, accordingly, after a copious shower of rain, the fall of hail and the size of the hail stones, were unusually great. Now, as the general course of the cloud was from W. N. W to E. S. E., and the wind at the *surface* of the earth was chiefly in the same direction, it might have been expected, that the hail stones would have come from the same quarter, but such was not the fact, as the windows of the northern and not the western sides of our houses were broken. In the north side of the Louisville Medical Institute, upwards of one hundred and twenty panes of glass were destroyed, while none were broken on the western side. We respectfully invite our readers to direct their attention, throughout the present summer, to the course of the winds at the earth's surface and

above, at the time of our thunder gusts, and thus, for themselves, decide the truth or falsehood of professor Espy's theory.

Since the above was written, intelligence has reached us that about 10 o'clock, of the day previous to this storm, the city of Natchez was visited by one of the most desolating tornadoes, ever experienced in the United States. We hope that some of our friends in that city or its vicinity, will give us their observations upon it.

D.

COMBE'S PHRENOLOGICAL LECTURES.

The celebrated GEOROE COMBE, Esq., of Edinburg, who came to the United States, twelve or eighteen months ago, to lecture on phrenology, after delivering several courses, which were well attended, in the cities of the east, lately made a flying visit in the west. His stay in Pittsburgh, Cincinnati, Louisville and Lexington, respectively, was exceedingly brief, and he did not deliver a single lecture in either place. We understand that he is about to return to Scotland. He is said to have made many converts to Phrenology in Philadelphia, New York and Boston, where indeed, the number previously existing was considerable. D.

HARRODSBURG SPRINGS.

We understand that Dr. Graham, the enterprizing and obliging proprietor of this popular watering place, has lately made large additions to his previous means of accommodation. In many respects, this is the most elegible place of summer resort in the valley of the Mississippi—of the whole, it is, indeed, the most highly improved by art. For the information of such of our readers as have not seen an account of the composition of the waters, we may state that the active ingredient, is *sulphate of magnesia.* D.

SUBTERRANEAN RETREAT FOR INVALIDS.

We hope not to be accused of a play upon words, in the title of this paragraph. Most of our readers have heard of the *Mammoth Cave,* near Green river in this State. Irregular and sinuous, it is

said to extend for several miles, in ancient secondary limestone, to be of a uniform temperature throughout the year, to be free from all *excess* of humidity, and entirely exempt from any offensive or deleterious gases, insects, snakes or vermin. Such is the excavation, which our friend Dr. Croghan proposes to convert into a residence, during the heat of summer and the cold of winter, for such invalids, as may, at those seasons, regard a change of climate as necessary to their comfort. The enterprise is certainly novel, and we see no reason, why it should not in many instances, prove more salutary, than a visit either to the south or the north. Dr. C. being a man of science, will understand in what manner to make arrangements for the accommodation of valetudinarians, while, with the taste of a gentleman, he will provide suitably for the comfort and amusement of those, who in health, may visit this ancient resort of the extinct people of Kentucky, one of whom, completely mummyized, was found many years ago in a recess of the cavern.

D.

LUNATIC ASYLUMS.

For the information of such of our brethren, as reside in places remote from the few Asylums for the insane which have as yet been erected in the Valley of the Mississippi, we should be happy to speak of them in detail. We know so little, however, of that in Tennessee, of which Dr. Kelley is superintendent, that we can but indicate its existence, and ask for information.

With that established by the State of Kentucky, in the city of Lexington, our acquaintance, in former days, was quite intimate; and we have reason to believe, that it is now, what it then was, a well provided and well ordered establishment. We have not, however, received any recent report of its progress or present condition, and cannot, therefore, say more at present, than that it merits the confidence of those who are called upon to provide for insane friends.

Of the Ohio Lunatic Asylum, in Columbus, we know much more, having lately received the Annual Report to the Legislature, by its Directors and Superintendent. This is the first report, made after the opening of the Infirmary, and comprises the year from November, 1838, to November, 1839.

During that time, 157 patients were admitted, concerning whom, we extract the following tabular view, the RECAPITULATION of one much more extended.

Whole number of patients admitted into the Asylum from the 30th November, 1838, to the 15th November, 1839, - - - - - - - - 157

Males, - - - - - - - - - - -	87	
Females, - - - - - - - - - -	70	—157
Old cases, - - - - - - - - - -	114	
Recent do* - - - - - - - - -	43	—157
Paupers, - - - - - - - - - -	125	
Pay patients, - - - - - - - -	32	—157
Single, - - - - - - - - - - -	88	
Married, - - - - - - - - - -	56	
Widows, - - - - - - - - - -	11	
Widowers, - - - - - - - - -	2	—157

Discharged during the year.

Recovered, -	27		
Incurable, -	5		
Idiotic, - -	2		
Eloped, - -	1		
Died, - - -	8	— 43	
Males, -	61		
Females -	53	—114	—157

Per cent. of recoveries on recent cases in 8 months, - - - 71.43

Of those remaining in the Asylum,

The prospect seems to be entirely favorable for	15	
" " favorable "	15	
" " doubtful "	34	
unfavorable "	50	—114

Duration of insanity before admission.

Less period than one year, - - - 43

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* Cases are denominated RECENT or CURABLE when the duration of the disease is less than ONE YEAR before the admission of the patient. Institutions differ much in regard of this RULE, which is deserving of notice, as the result will be materially changed where the periods of 3, 6 or 9 months are adopted.

From one year to five years,	67
" five to ten years,	22
" ten to twenty years	16
" twenty to thirty years,	6
Unknown,	3—157

Ages of the patients when admitted.

Under twenty years,	7
Between twenty and thirty,	71
Between thirty and forty,	41
Between forty and fifty,	20
Between fifty and sixty,	14
Between sixty and seventy,	4—157

Supposed remote or exciting causes.

Intemperance,	7
Domestic affliction,	6
Puerperal,	13
Ill health of various kinds,	14
Loss of friends,	4
Matrimonial perplexities,	4
Fright,	3
Intense application,	3
Jealousy,	2
Disappointed Love,	10
Epilepsy,	9
Injuries of the head,	5
Constitutional,	10
Disappointment and mortification,	10
Masturbation, (*produced or perpetuated by the practice,*)	16
Fear of want, loss of property, &c.,	7
Ill treatment from parents or guardians,	2
Religious excitement and anxiety, including perplexity, exaltation, enthusiasm, fanaticism, doubt and fear of future punishment,	15
Unknown,	17—157

Species of insanity.

Mania,	101

" melancholic variety,	17
" epileptic "	12
" homocidal,	4
Moral insanity,	10
Incoherence or dementia,	10
Idiotism or imbecility,	3—157

Occupations.

Laborers,	16	Farmers,	27
Millwrights,	2	Blacksmiths,	3
Brick-mason,	1	Brewer,	1
Carpenters,	7	Shoemakers,	3
Students,	3	Teachers,	3
Tailors,	3	Lawyers,	2
Merchant,	1	Sadler,	1
Cooper,	1	Weaver,	1
Collier,	1	Clerk,	1
Potter,	1	Preacher,	1
Engineer,	1	Musician,	1
Sea Captain,	1		

Places of nativity.

Ohio,	44	Pennsylvania,	24
New Jersey,	4	New York,	8
New Hampshire,	5	North Carolina,	1
Connecticut,	6	Vermont,	9
Virginia,	12	Kentucky,	3
Delaware,	1	Maryland,	2
Massachusetts,	8	Tennessee,	1
Germany,	9	Ireland,	7
England,	8	Scotland,	3
Rhode Island,	1		

Admitted and discharged.

Months.	Admitted.	Discharged.
November,	2	–
December,	25	–
January,	14	–
February,	4	4
March,	3	3
April,	5	1
May,	13	–
June,	16	–
July,	30	2
August,	13	4
September,	13	11
October,	10	13
November,	9	5
	157	43

The edifice is situated one mile east of Columbus in the midst of ample grounds, and in a healthy locality. It is the most extensive building, we suppose, in the Valley of the Mississippi, and fashioned after the best models of the Eastern States. The whole discipline of the establishment is mild and paternal. All restraint, not *absolutely* necessary, is avoided, and every moral influence is pressed into the treatment of the unfortunate inmates. The superintendent, Dr. Awl, has made the management of Lunatic Asylums a special study, and is unwearied in his efforts, for the comfort and care of all the patients—facts which we do not derive from the Report, so much as from other sources, and especially personal observation. It is proper to state, for the benefit of persons at a distance, that Columbus may be reached, either from the north or south, by the Ohio and Erie canal, which, as it crosses the State from Cleveland to Portsmouth, is connected with Columbus. D.

CANDIDATES FOR ADMISSION INTO THE MEDICAL STAFF OF THE ARMY. MEDICAL SCHOOLS.

From the last Report of the Surgeon General, of the United States, to the Secretary at War, we make the following extracts:

"The law requiring an examination of candidates for appointment and of assistant surgeons for promotion in the medical department of the army, has been rigidly enforced.

"Two junior surgeons whose examination for promotion had been unavoidably deferred, and three assistant surgeons of five years standing, were ordered to present themselves, and thirty-six applicants for appointment to the medical staff of the army, were invited to appear before the medical board lately in session, at New York. The surgeons and assistant surgeons having undergone a thorough examination upon all the branches of medical science, and received a favourable report from the board, the first two were sustained in their advanced position, and the last three rendered *legally* qualified for promotion. With the candidates for admission into the army, however, the result of the examination was very different. Of the thirty-six who were invited to appear before the board, twelve declined the examination, (two, after having reported to the the board,) two were excluded on account of their age, and twenty-two were examined; and of these last, five only were found to possess all the qualifications essential to an appointment.

"It may be that we have erected too high a standard of merit—that too much is exacted from the human intellect; we are not conscious, however, that more has been asked, than ordinary talents, a

good primary education, and the actual study of the science of medicine, can attain. At all events, some few have reached the highest scale of excellence; and while as many of these choice spirits can thus be secured, as will fill our ranks in each succeeding year, we shall not relax in our requirements upon those who claim to be admitted into the medical staff of the army.

"But to account for the humiliating result of the examination on the present and on the former occasions, we have only to look to the system of education which now obtains in the country.

"The facilities of acquiring medical knowledge, or rather of becoming professional men, are so great, that many persons are seduced into an attempt to become physicians, without the basis of an education. There are others again, who having received a good primary education, and also passed through a regular classical or collegiate course, (and thereby rendered qualified for scientific pursuits,) are induced from motives of economy and convenience, or with the view of sustaining institutions of their own State, to enter some of the small medical schools, where they cannot possibly have the advantages of anatomical dissection, (the ground work of the profession,) or the means of clinical instructions upon an extended scale. A knowledge of the science of medicine is not, like divinity and law, to be acquired by reading books in the closet, and listening to the reading of a course or two of lectures; it can only be attained by seeing and feeling, in connection with the knowledge acquired from books.

"The great multiplication of medical schools in every section of the country, together with the proverbial facilities of becoming licensed practitioners, has so lowered the standard of professional excellence, and so manifestly degraded the medical character of the United States, that the present system will be, it is to be hoped, by a more enlightened public opinion ere long put down. The interests of the country are so much divided by these various institutions, and the patronage to each is consequently so small, that many of our ablest medical men will not accept places in them; were it practicable, however, for the professors to obtain adequate compensation for their services, it would be impossible to find professional men enough of talents and attainments to occupy the several chairs in the innumerable medical schools in every town, village, and cross-road place, throughout our states and territories."

There is much matter for serious, indeed painful, reflection in these extracts. Out of twenty-two candidates, all we presume graduates, five only, not a fourth, were found qualified! Whence this discrepancy between the Faculties of our schools and the Medical Board of the Army? Are those who are qualified to practise among citizens, unfit to practise among soldiers? In a time of general war, this, from the special demand which would then exist for surgical skill, might in some degree be the case; but such a war

does not, now, exist, and indeed the report does not intimate, that the rejected candidates, were deficient in surgery more than physic. We may presume then, that they failed on the ground of general professional incompetence; and if so, it is manifest that the Army Board have erected a higher standard, than the schools, in which the seventeen rejected applicants were graduated. Which is in the right? We know not from what schools those gentlemen received their diplomas, but although teachers ourselves, we are bound to admit, that the rejections *may* have been justly and properly made; from which admission it follows, that we think the standard of our schools too low—that of the army not too high.

That many young gentlemen receive diplomas who ought not to receive them, and who could not obtain them from any, even the lowest, schools in Europe, we have long been convinced. Were this true only of the alumni of the more obscure, and what may be called, provincial institutions, it would be of less moment; but ample and long continued observation has assured us, that the oldest and most celebrated establishments of the Union, are in this respect as great sinners as the humblest. This being the case, we regard with satisfaction the efforts of the Army Board to apply a corrective, and hope to see them persevere. We are far, however, from believing, that they alone can cure the evil, or that they have judged correctly as to its cause, when they fix upon the "multiplication of medical schools in every section of the country." Of this multiplication the Report speaks, with a flippancy unworthy of the subject. We admit that many of our schools have in them unqualified teachers, but we do not admit that the graduates of these schools, are particularly inferior to those educated under abler men; nor do we admit that talented teachers in sufficient numbers, could not be found. The Surgeon General thinks that the multiplication of medical schools increases the number of medical students. We believe that it increases the number who attend lectures, but does not increase the number of youth who engage in the study of medicine. The foundations of the difficulty lie deeper than the report has penetrated.

First. The compensation of medical men generally, throughout the Union, is such as to repel, rather than invite young men of talent, education, and enterprise, into the ranks of the profession; especially, when commerce and the law, hold out much higher inducements.

Second. As we have intimated in another article of this number, the sessions of our schools are too short, and cannot be lengthened but by common consent, which consent however could undoubtedly be obtained by a proper effort.

Our short sessions explain why there is less difference, than might be expected, between the graduates of the most distinguished and the most humble institutions of the country. The time allotted for a sojourn within their walls, is too short to admit of any attainment beyond the *rudiments* of the science, which are often as successfully imparted, by men of limited knowledge, as by the most erudite.

Third. It is in vain to declaim against the multiplication of medical schools. At present they about equal the number of States; but they are unequally divided among these rival Commonwealths; and, under the great principle of emulation, we may expect, that several which have not yet chartered medical schools will hereafter do it.

The true remedy then is, a leghtened session, and greater liberality of compensation to our physicians generally. D.

DEATH OF DR. JOSEPH PARRISH

Without attempting to record the deaths of all the respected members of the profession, who are from time to time gathered to our fathers, we cannot pass by that of the able, benevolent and popular brother, whose name is affixed to the head of this notice, and who died in Philadelphia on the 18th of March, at the age of sixty-one years.

Our acquaintance with Dr. Parrish, commenced in the Philadelphia Medical Lyceum, in the winter of 1805-6, and was renewed at various periods for twenty-five years. Few men in the profession have been more sought after, and more indefatigable in the discharge of its practical duties—through the long period of thirty-five years. Incessantly occupied, Dr. Parrish did not leave behind him any extended record of his experience, except on the subject of Hernia. The most important paper, which, at this moment, we recollect to have seen from his pen, was on tubercular phthisis, in the treatment of which he was an advocate for the tonic and invigorating method. He had himself, in early life, been strongly inclined to that malady, and in the *post mortem* examination, to which, according to a request

made in his last illness, his body was subjected, cicatrized pulmonary cavities were found. The principal morbid appearances were however in the liver and left kidney. The former being in a state of cirrhosis, and the latter of extensive suppuration. D.

ANIMAL MAGMETISM.

What has become of Rhode Island Animal Magnetism? We heard a report not long since, that it had broken out in Wheeling, Va. We hope it will float down the river to Cincinnati and Louisville. In a late number of the *Boston Medical and Surgical Journal*, it is stated, that the French Academy had at their disposal, 3000 francs to present to the person, magnetized or not, who should read through an opake body, interposed between the eyes and the letters, with his eyes open or closed, but notwithstanding the hue and cry about *clairvoyance*, not a single individual who pretended to read in that manner, has been able to do so before the committee of the Academy.

D.

HOSPITALS AND MEDICAL SCHOOLS OF LONDON, PARIS, DUBLIN AND EDINBURG.

Under this head we expect to be able to furnish our readers with a series of interesting sketches, from the pen of our friend, Dr. Moses L. Linton, one of the most gifted and promising young physicians in Kentucky, now on a tour of professional improvement in Europe. Dr. L. has industry, a noble ambition, a true love of science, and describes accurately and elegantly, whatever he sees. The two following letters present a sketch of some of the scientific institutions of London and Paris: Y.

London, December 5th, 1839.

Dear Sir:—I propose, during my stay in Europe, addressing to you a few letters, containing notices of the Hospitals, and various medical institutions of London, Paris, Dublin and other places distinguished for the cultivation of the profession; and without attempting, by a labored preface, to show that such notices either will or ought to be interesting to American physicians, I shall proceed directly to the subject.

St. Bartholomew's Hospital, the oldest establishment of the kind in London, is a capacious edifice of stone, occupying the site of the ancient priory of St. Bartholomew, and near the centre of the city proper. The principal entrance is through a large arch, in a rustic basement, over which stands the statue of Henry VIII. Above is an interrupted semi-circular pediment, on the segment of which recline two emblematical figures, representing lameness and sickness. The interior arrangements are convenient and ample—the professional attendance able, well divided and abundant—the nurses kind and numerous; and the greatest order appears to reign throughout the whole. This Hospital was founded by a monk, Rahere, in 1102, and refounded by Henry, after the destruction of the monasteries in the sixteenth century. It escaped the great conflagration of 1666, that destroyed five-sixths of the whole city, and a great portion of the suburbs.

Attached to this, as to most other similar institutions in the city, is a medical school, in which the various branches of the profession are taught, viz: Principles and Practice of medicine, by Doctors Latham and Burrows; Anatomy, Physiology and Pathology, by Edward Stanley, F. R. S.; Demonstration of practical Anatomy and superintendence of dissection, by Mr. Wormald; Chemistry, by Mr. Brande at the Royal Institution; Midwifery and diseases of women and children, by Dr. Rigby; Materia Medica, by Dr. Roupell; Surgery, by William Lawrence, F. R. S., and surgeon extraordinary to the Queen, &c. During the summer course, lectures are delivered on the collateral branches of Botany, Medical jurisprudence, &c. St. Bartholomew's contains five hundred and fifty beds, of which three hundred and seventy-five are allotted to surgical, and one hundred and seventy-five to medical cases. The in-patients amount annually to above five thousand, and the out-patients to above twenty-three thousand.

The fees paid by students are high, being from five to nine guineas to each lecturer, per winter session, thirty guineas for the privilege of attending the medical practice of the Hospital for an unlimited period. The privilege of attending the surgical practice is purchased by the payment of a still higher fee, being eighteen guineas for six months. The museum of Anatomy contains five hundred and forty specimens of natural human structure; seventeen hundred of morbid human structure; three hundred and ninety of the form and structure of parts in animals; one hundred and fifty of congenital de-

fects in man and animals; one hundred and ninety casts and models in wax and plaster of Paris. The library contains upwards of four thousand volumes. Strangers and foreigners belonging to the profession, who visit this Hospital, are treated with the utmost courtesy, and freely admitted from day to day into all its wards, lecture-rooms. and other places of interest. The same may be said of all the Hospitals in London.

In the management of diseases, both medical and surgical, I saw and heard but little that is new, or worthy of especial notice. Syphilis is treated by the various preparations of mercury internally administered, or externally applied, or both. As a local application, the black wash is in high repute—as a diet-drink, sarsaparilla. When, however, the disease seems not to yield, or to grow worse, as is often the fact, under the mercurial treatment, the hydriodate of potash is substituted in its stead, and Mr. Stanley, one of the surgeons, informs me, that, given in doses of from five to eight grains, thrice daily, he has used the article in such cases with decided advantage.

The great attraction which this institution affords alike to the transient visitor and the regular student, is Mr. Lawrence, whose varied erudition as a scholar and medical philosopher, eloquence and perspicuity as a lecturer, and tact as a surgical operator, few have had the good fortune to surpass. I have been listening to him for some evenings past, on the subject of *tumours*, and I certainly never heard it discussed more ably. According to his views, the following are the diagnostic traits by which *malignant*, may be distinguished from *simple* tumours.

1st: The former are generally deep-seated; whereas the latter are superficial.

2nd: The growth of the former is rapid—of the latter, slow.

3rd: The former are generally painful, whilst the latter produce inconvenience only by their size; and

4th: The latter produce no constitutional disturbance, whilst the former are attended by emaciation, hectic fever, and various other evidences of vital derangement. It is not important, he remarked, to know the composition of a tumour previously to exsecting it. You must, in most cases, exsect it before you *can* know its constitution. He observed that it is almost impossible to classify them, and certainly impossible to refer many that are met with to any of the classifications of authors, their texture and composition being as various

as the combinations into which animal elements, under the influence of vital action, can enter. Before determining on an operation, said he, the following facts ought to appear :

1st : That the tumour is causing great inconvenience, pain, or disturbance of some kind.

2nd : That the operation is safe, or at least promises to increase the chances of life ; and

3rd : That the patient, after being apprized of all the circumstances, desires it.

It is a law of tumours, he said, that they are disposed to resemble in structure, the parts in the neighborhood of which they are formed : thus the fatty tumour is found in the adipose layer that envelopes the body ; the glandiform tumour, called the pancreatic, under the jaw, in the region of the salivary glands, &c., &c.

This view of the subject was, I confess, in some respects, new and interesting to me. It is certainly a simplification of a very *abstruse and knotty* department of surgery.

As an operator, the reputation of Mr. Lawrence is truly enviable. Amongst other operations, on Saturday last I saw him perform one for the relief of Trichiasis. The eye was very much inflamed, and entirely incapable of performing its function. By means of a needle he passed a thread through the lid near its margin, by which he held it far enough from the ball, to cut away with safety as much of that margin, as included the bulbs if the ciliæ. He remarked that the operation was always followed by immediate relief, and, when the inflammation had not proceeded to serious structural lesion, a rapid restoration to the enjoyment of vision.

PARIS, March 25, 1840.

Dear Sir:—As what I have said in a former letter in relation to St. Bartholomew's Hospital, applies in a great degree, to all similar institutions in London, I shall pass without further notice of them, to a brief account of medicine in Paris—a subject to which I propose devoting this and a few succeeding letters; and as the University of France includes, presides over, governs, and directs the teaching, not only of this, but every other branch and grade of science in the kingdom, a sketch of the outlines of its organization, will, I conceive, form an appropriate preface.

At the commencement of the revolution there existed in the various Departments ten or twelve Universities, besides various Colleges and Schools, founded and sustained by the different religious orders. At that period, the whole were dissolved, and one imperial University established for all France; and placed under the direction of a Grand Master and Council. M. Cousin is at present Grand Master, or Minister of public instruction. The council royal, of which he is the president, consists of seven members. This body may be considered the supreme tribunal, not only of the University, but of the many bodies or associations of learned men, in which the kingdom, but more especially the capital, abounds; and at the head of which may be placed the Institute.

The University consists of, or is divided into about twenty-five academies, situated in the principal cities of the kingdom, and having jurisdiction over their respective sub-divisions. Each of these academies has its particular council or government—its primary, secondary, and superior instruction; or in other words, its primary schools, its colleges and its Faculties.

The organization of the University is indeed strikingly analogous to that of the government of the United States—each academy, as each state, having its particular laws and regulations, though subject in a great degree to a common head, or central power.

It should be remarked however that there are but three of these academies possessing medical faculties empowered to confer the doctorate, viz: those of Paris, Strasbourgh and Montpelier. Most of them have *secondary* medical schools, and many of them Faculties of Theology and Law. It will thus be seen that the University is colossal and grasping, that from the highest Faculties, down to the boarding-school where the first elements are taught, nothing escapes its attention or eludes its vigilance—a pyramid of intellect and science, founded and reared by the giant genius of Napoleon.

Having thus glanced at the University in general, we come now to a somewhat particular notice of its most renowned and important branch—the Academy of Paris.

Besides its numerous elementary schools for primary instruction, and its many royal and communal colleges for the higher branches of education, this Academy contains the following Faculties:

1st. Of *Theology*.—Comprising courses on the doctrines and evidences of christianity, sacred history, church government, dogmatic theology and sacred eloquence.

2d. Of *Letters.*—This Faculty gives lectures on Greek literature and philosophy, ancient and modern, Latin and French eloquence and poetry, French history and literature, geography and foreign literature.

3d. Of *Sciences.*—Here are courses on algebra, astronomy, mechanics, natural philosophy, chemistry, mineralogy, botany, zoology, descriptive geometry, comparative zoology and physiology, and geology.

4th. Of *Law.*—In this school, there are lectures on the Institutes of Justinian, the civil code, the pandects, the laws of nations, the history of law, the constitutional law of France, &c.

5th. Of *Medicine.*—This Faculty is composed of twenty-six professors besides a great many agrégés or adjuncts. The number of chairs or courses is eighteen, as will be seen by consulting the following table:

Anatomy, Breschet.—*Pathological Anatomy*, Cruveilhier.—*Medical Chemistry*, Orfila.—*Pharmacy and Organic Chemistry*, Dumas.—*Hygiene*, Royer Collard.—*Surgical operations and apparatus*, (on the *Cadaver*,) Richerand.—*Surgical Pathology*, Dumeril and Piory.—*General Pathology and Theraputics*, Andral.—*Materia Medica and Therapeutics*, Berard.—*Medical Jurisprudence*, Adelon.—*Physique Medicale*, Pelletan.—*Accouchements and diseases of Women and Children*, Moreau.—*Histoire Naturelle Medicale*, Richard.

Three clinical courses given at the Hospital as follows:

Cliniques Chirurgicales.—Roux, at Hotel Dieu; Velpeau, at La Charitie; Sanson, at La Pitie; Cloquet, at the Hospital of the Faculty.

Cliniques Medicales.—Fouquier and Bouillaud, at La Charitie; Chomel, at Hotel Dieu; Rostan, at the Hospital of the Faculty.

Cliniques d'Accouchements.—Paul Dubois, at the Hospital of the Faculty.

A part of these courses is given in the winter, and a part in the summer session, thus constituting two terms, per annum, each of five months duration. The lectures are delivered at the Ecole de Medicine, with the exception of the cliniques.

A word in relation to this magnificent building. Its first stone was laid by Louis the XV., in 1769. The front towards the street consists of a colonnade of the Ionic order, one hundred and ninety-eight feet in length, supporting an entablature and attic. Above the principal entrance, is a bas-relief, representing Louis XV, ac-

companied by Wisdom and Beneficence, and a Genius with a plan of the school. The court or area which the building encloses, is ninety-six feet in length, and sixty-six in breadth. The inner, or principal front, presents a projecting mass, composed of six large Corinthian columns, surmounted by a triangular pediment, on which is a bas-relief, allegorical of the theory and practice of medicine. On the wall are medallions, containing portraits of the celebrated Surgeons, Pétard, Paré, Petit, Mareschal and Peyronie.

The principal amphitheatre will contain between one thousand and fifteen hundred persons. It possesses three fresco paintings by Gibelin; one represents Esculapius teaching the elements of Medicine; in another the Surgeons are dressing the wounded after battle; and in the third, the Genius of Medicine crowned by Fame, is bestowing prizes upon pupils and academicians.

In the salle d'assemblée is a painting by Gerodet, representing Hippocrates refusing the presents of the king of Persia to practice his art amongst the enemies of his country. It is surrounded by the busts of the most famous French Anatomists, Physicians and Surgeons. One of the saloons of this building is appropriated to the library, containing more than thirty-five thousand volumes; and five others to the museum of Faculty, consisting of an extensive collection of anatomical preparations, normal and abnormal; an arsenal of surgical instruments, objects of natural history, specimens of the materia medica, and chemical and physical apparatus.

About one hundred yards from this edifice is a series of buildings in which the agrégés of the Faculty give lectures on anatomy, and operative surgery, and in which are a great many rooms for dissections. This establishment is known by the name of the Ecole Pratique. Near the Jardin des Plantes is another still more extensive, appropriated to anatomical studies. To this place, "*Clamart*," the carts, employed for the purpose, bring every morning the unclaimed dead of the various hospitals. When they arrive, and the bodies are deposited in a central hall, a bell is rung to summon the students to what would appear to the uninitiated a melancholy market. It is scarcely necessary to mention that the friends of the dead, if friends they have, can claim their bodies at the hospital, and afford them that last gift of charity—a grave.

I shall close this *coup d'œil* of medical and other institutions of learning in France, by a short account of the Museum of Dupuytren. This distinguished Surgeon having left by his will two hun-

dred thousand francs for the creation of a chair of Pathological Anatomy, M. Orfila profited by the circumstance in soliciting the Royal Council of public instruction, of which he is a member, to establish a Museum exclusively devoted to Pathological Anatomy—the request was granted, and gratitude to the generous founder of the new chair gave it a name.

This Museum occupies a vast saloon in which elegance and taste are associated with all the conveniences of its destination. It contains the principal pathological alterations, virieties of conformation, and anomalies of organization to which the human system is liable. All these are grouped or classified in a manner that renders their inspection easy, as well as interesting and instructive.

The subjects noticed in this letter, though rather dry and statistical, will not, I hope, prove entirely uninteresting. In my next I shall endeavor to afford something of a more practical character.

M. L. L.

PAROQUET SPRINGS.

These Springs, which are beginning to attract much attention, having recently been improved in the most tasteful style, are situated on Salt river, in Bullitt county, within about twenty miles of Louisville. The valley in which they rise appears, from the shells which are found embedded in the earth, to have been the basin of an ancient lake, which has emptied its waters through Salt river into the Ohio, and thus found an outlet to the gulf. The geological formation is limestone. The valley is beautifully undulating, and is surrounded at the distance of a few miles by rugged hills.

The chief fountain belongs to the class of *Salino-Sulphur* Springs. It has been long in use, and is regarded by the people of the neighboring village of Shepherdsville, as highly medicinal. Since the property was purchased and improved by Mr. *Colmesnil*, the water of this Spring has been used by persons afflicted with rheumatism, liver and dyspeptic complaints, with great advantage. Cures of much interest have been reported to us by individuals in whose accuracy we can confide, and some we have ourselves seen. Among the rest, that of a lady, now resident at the Springs, is striking. She was supposed by her physicians to labor under an affection of the

spinal cord, by which she was nearly deprived of the use of her arms, all motion of the shoulders being painful and difficult. At the time that she removed to the Springs and commenced the use of the water, she was comparatively helpless; unable to bear the slighest exposure to cold, and incapable of any but the gentlest exercise. Her digestion was also bad, and she was troubled especially with cardialgia and constipated bowels. This was in December. She has used the water internally, and by sponging, and as a bath, and the benefit derived from it is most manifest. In a few weeks, she was relieved of the pain and stiffness of the shoulders, and was able to walk over the grounds, even in the winter season, with impunity. Her digestion is restored, and she considers her health good.

On analysis, this Spring has been found to contain the following ingredients:

1. Carbonic acid gas, (copious:)
2. Sulphuretted hydrogen gas:
3. Muriate of soda, (abundant:)
4. Muriate of lime:
5. Muriate of magnesia:
6. Sulphate of soda:
7. Sulphates of magnesia and lime:
8. Carbonates of lime, magnesia, and probably soda.

Its peculiar taste and odor are imparted by the sulphuretted hydrogen and muriate of soda, with which it is largely impregnated; and the quantity of muriate of lime and muriate of magnesia in it, is also sufficient to affect its medicinal virtues. Three tumblers' full of the water will move the bowels of most persons, and powerfullly excite the kidneys. Cutaneons eruptions not unfrequently appear after it has been in use for a few days, but these give place to a very healthy state of the skin. In composition, it is nearly identical with the famous Harrowgate and Dinsdale Springs in England, and with the Blue Lick, and Olympian Springs of this State, long places of resort for invalids, and is, of course, adapted to that class of affections in which they have been found useful.

A second spring issues within a few paces of the one just described, of the same chemical constitution, so far as we could ascertain, but which is said to possess the singular quality of exciting nausea and free vomiting, even when drunk in moderate quantities. We have not had an opportunity of testing its virtues in this way. It is

not so highly charged with the muriate of soda or sulphuretted hydrogen, and contains a greater proportion of the muriates of lime and magnesia than its neighbor, and this is the only difference we have been able to detect. It may, however, give up on future trial some element which, hitherto, has eluded our analysis.

The third is called the *Epsom Spring*, and issues from the brink of a hill three hundred yards distant from the others. Its taste is bitter, resembling that of Epsom salts, the presence of which substance gives to it its peculiar properties. To most persons it is less palatable than the salt-sulphur water, and, consequently, its remedial qualities have not been so fully tested. It acts decidedly upon the bowels, and also promotes the action of the kidneys.

The following is the result of our analysis of this water:

1. Carbonic acid gas:
2. Sulphate of Magnesia, (abundant:)
3. Sulphate of lime:
4. Carbonate of lime:
5. Carbonate of Magnesia:
6. Muriate of lime:
7. Muriate of Magnesia:

This spring bears a close analogy to the Epsom water of England, and one of the springs at Harrodsburg, the medical virtues of which have been confirmed by the experience of many years. Invalids might find it beneficial to alternate the use of it with that of the Salino-Sulphur Spring. Of the efficacy of the latter in dyspeptic complaints there cannot be a doubt, and it may, therefore, be safely recommended to that numerous class of sufferers. Y.

MEDICAL SOCIETY OF TENNESSEE.

We had the pleasure of being present at the meeting of the Medical Society of Tennessee, in Nashville, on the first Monday in May—the *eleventh annual* meeting of the Society, which, in keeping them up for so many years without interruption, has manifested a commendable persistency but too rare in such associations. The Society was chartered in the fall of 1829, and in the following May a large proportion of the members elected assembled in Nashville. It was the first united public effort in the State at improving the char-

acter and standing of the profession, and the meeting was large and spirited. Every quarter of the commonwealth had its representatives, and the assemblage embraced as large an amount of professional talent as we have ever seen brought together; but owing to a defect in the charter, which succeeding Legislatures have refused to supply, the interest of many members in the Society has abated, and its subsequent meetings have been less numerously attended. The law establishing the Society povided for the appointment of a Board of Censors for East, Middle, and West Tennessee, and made it the duty of these Censors to examine all candidates for the practice of physic who should make application to them; but it did not make it obligatory upon candidates to pass such an examination before engaging in the practice. It was easy to forsee that few aspirants to practice, under such a provision, would trouble the Censors to inquire into their qualifications. The hope that the Legislature would see the policy of making this salutary requisition, has hitherto been disappointed, and as the measure would not probably be a *popular* one, it is not likely soon to be adopted. Regarding this, which was the fact with many of the original members, as the primary and far the most important object of the Society they have despaired of its usefulness, and ceased to attend its meetings.

This, it has always been our opinion, is a great mistake. The regulation of medical practice by law, is not the most important function of such associations. A much higher object is to extend and improve professional knowledge—to multiply and perfect our remedies and their application—to develope the causes of our endemic diseases, and devise the measures to prevent or relieve them—to awaken a spirit of inquiry, and promote friendly intercourse among the members of the profession. In regard to all these objects, the Medical Society of Tennessee has already exerted a good influence, and is capable of extending it indefinitely hereafter. It will, if continued and duly supported, soften those asperities which are felt to be among the greatest evils of a medical life, and which have been the standing reproach of our profession. It will excite and keep alive a spirit of emulation and research, and bring to light the results of much valuable experience. The publication of its transactions will give character to the faculty of the State abroad, as they have already made it favorably known. The soil and climate of the state, the situation and exposure of the localities particularly subject to disease, the minerals, water, winds, indigenous medicinal plants, the endemic and epidemic disorders—all

these will come under the investigation of the Society, and whatever else in diet and modes of living, or in moral and intellectual culture, contributes to health, or engenders disease. It is able to do the state and the profession much service, and it was with great pleasure, therefore, that we heard the members at the last meeting unanimously resolve, that they would not willingly let the Society die.

Dr. Robertson, perhaps the oldest, and one of the most eminent practitioners in the State, having declined to serve any longer as President, Dr. Hogg was unanimously elected to that office for the next ensuing two years. The pleasure of conferring this well-merited honor upon the venerable member, was greatly enhanced with every individual present by the circumstance, that he had just resumed the duties of his profession after a protracted illness—an affection of the lungs—which it was long feared would prove fatal. It was made the duty of the President to deliver an address before the society at the next annual meeting, and one may be expected from Dr. Hogg to which his great experience will impart a high value. Dr. Buchanan, of Columbia, was elected Vice President, and is required by the terms of his office to deliver an address at the meeting in May, 1842. Dr. B. is one of the most zealous and enterprising members of the Society, with an active mind, high attainments, and true professional ambition, and will be faithful and able in the discharge of that duty.

The other officers elected, were Dr. Waters, Corresponding Secretary; Dr. Martin, Recording Secretary; Dr. Shelby, Treasurer, and Dr. Yandell, Orator. The Board of Censors for the preceding year, were re-elected. A number of gentlemen were appointed to read papers on the topography and diseases of different regions of the State, a premium of 50 dollars was offered for the best Essay on Bilious Fever, and, altogether, a large amount of literary exercise was provided for the next meeting. Y.

MEDICAL INSTITUTE OF LOUISVILLE.

New Charter.—The last session of our Legislature gave to the Medical Institute of Louisville, a new charter, in which the power to confer the degree of *Doctor of Medicine* (previously exercised under a sound construction of the law of 1835) was given in express terms.

Professor of Surgery.—Dr. Flint having resigned the Chair of *Surgery* in the Institute, Samuel D. Gross, M. D., late Professor in the Cincinnati Medical College, has been called to the vacancy. Dr. Gross

possesses eminent skill as a practitioner, and is extensively and favorably known as a popular and able writer and teacher. His appointment will increase the claims of the Institute to the confidence and support of the profession.

Dr. Gross commenced his career as a public teacher in 1833, when he was invited by Dr. Eberle from Pennsylvania to take the office of *Demonstrator of Anatomy*, in the Medical College of Ohio. His accurate knowledge of the science, his skill in dissection, and his facility in lecturing. gave him immediate reputation; and, in 1835, when the Medical Department of the Cincinnati College was instituted he was unanimously appointed professor of *General and Pathological Anatomy*, *Physiology and Medical Jurisprudence*, which chair he filled, with distinguished success, till the department was suspended in 1839.

Dr. Gross entered on the duties of the profession, as a surgeon and physician in 1828, and has for some time been in extensive practice; but in the midst of professional duties, in the comparatively short period of twelve years, he has been enabled to prepare for publication the following works; many of which have been widely circulated among the profession.

TRANSLATIONS.

1. *A Manual of General and Pathological Anatomy.*—From the French of A. L. J. Bayle & H. Hollard. Philadelphia: 1828.

2. *A Manual of Obstetrics.*—From the French of Julius Hatin. Philadelphia: 1828.

3. *A Treatise on Contagious Typhus.*—From the German of J. Val. De Hildenbrand. New York: 1829.

4. *Elements of Operative Surgery.*—From the French of A. Tavernier. Philadelphia: 1829.

ORIGINAL WORKS.

1. *The Anatomy, Physiology and Diseases of the Bones and Joints.* Philadelphia: 1830.

2. *Elements of Pathological Anatomy*, in 2 vols. Boston, 1839.

The last work, although not published till near the end of the year 1839, has already been made a text book in four Medical schools. It may be said to embrace the *Institutes of Surgery.*

In addition to these different works, Prof. Gross is the author of several papers in the journals of the day, one of which is an original inquiry into the signs and morbid appearances, in cases of death from *manual strangulation.* Y.

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JUNE, 1840.

ART. I.—*An account of the Epidemic Fevers of Natchez, Mississippi, in the years* 1837–'8–'9. BY SAMUEL HOGG, M. D.

NOT only the medical profession, but the public in general, have a claim on the physicians of Natchez for at least a passing notice of the malignant epidemics which have scourged this devoted city during the years 1837–'8–'9.

No one of the faculty having undertaken the task, I deem it my duty, however feeble my efforts may prove, to give to the public such information on this interesting subject as my limited means will enable me, hoping that my brethren will take the remarks for what they may be worth and will withhold their criticism.

In advance of the observations proposed to be made on the two epidemics, it may be proper to give a topographical description of the city of Natchez, the character of the seasons, and a general view of the diseases immediately preceding and subsequent to them, together with a general account of their treatment.

Many of the facts upon which these observations are founded have come within the knowledge of the writer, the others have been communicated by medical men of the first respectability and may be relied upon.

Natchez is situated on a commanding bluff, which forms the east bank of the Mississippi river, in latitude thirty-one degrees thirty-four minutes, and longitude ninety-one degrees twenty-four minutes, west from Greenwich, and fourteen degrees twenty-three seconds west of Washington city. It is laid off in regular squares, intersected by streets of moderate width and drained by sewers. The site of the city was originally undulating, with a delightful landscape extending back south and east—the country around for many miles is much injured by large gullies or bayous—the city is almost surrounded by them.

In 1834 the citizens commenced extensive graduations, removing the hills and filling the bayous, of which there were many—great improvements in building also commenced, which not only brought in much lumber, but made almost all the surrounding country mortar-beds or brick-yards. The population increased rapidly, principally composed of the laboring classes, stout, athletic and unacclimated, and the number of inhabitants in 1837 exceeded six thousand.

What is known as "under the hill at Natchez" extends from the termination of the bluff to the margin of the river, a distance of from one to two hundred yards in width, and

from a half to three-fourths of a mile in length up the river—its fixed population is between five and six hundred.

On the west side of the river the country is low and level, intersected by bayous, lake Concordia and other smaller lakes, which seem to have been at some time the bed of the river. There are now many large cotton plantations on that side in a high state of cultivation, and the blacks are generally healthy and seem contented. The city is supplied with good provisions, excellent cistern water, and ice in the summer. The citizens generally were temperate, orderly and industrious in their different occupations during those years.

The weather in 1836 was not in the extreme, either in temperature or in rain, the highest rise of the thermometer was 92° for a few days only at 3 o'clock, P. M., in July and August. The lowest was 24° for two or three days in November and December—there was no snow during the year.

There were 113 days on which it rained and 63 days on which there was lightning and thunder; much rain fell previously to the month of August, and the Spring months were disagreeable.

From the following meteorological register of the years 1837–'8–'9 I am indebted to our distinguished fellow-citizen and accurate observer, Dr. Henry Tooley, and deem it sufficiently important to give it in full:

METEOROLOGICAL REGISTER KEPT AT NATCHEZ, 1837.

1837.	*Thermometer.* 6 A. M.	12 M.	6 P. M.	*Barometer.*			cl.days	cl'dy.	rain	thaw	fog.	snow.
January,	42,5	48	51,8	29,76	29,78	29,72	11	7	9	1	2	2
February,	43	53	57	29,72	29,65	29,69	8	8	10	2	2	0
March,	51,8	61	64	29,70	29,66	29,69	7	7	12	0	5	0
April,	57	65	71	29,72,8	29,71	29,67	11	14	5	3	0	0
May,	65	75	79	29,72,2	29,71,3	29,65	23	4	4	5	0	0
June,	74,2	82,1	86	29,66,9	29,71,2	29,66	5	18	7	0	0	0
July,	76,5	84,3	88,3	29,74,7	29,77,1	29,74,1	0	21	10	11	0	0
August,	75,1	84,9	87,1	29,74,1	29,75,8	29,73,2	0	25	6	1	0	0
September	71,1	73,5	87,6	29,77,3	29,78,1	29,74	4	16	10	3	0	0
October,	61,8	68,7	72,2	29,86,4	29,91,1	29,87,6	8	18	5	2	0	0
November	53,2	64,1	72,2	29,81,2	29,84,1	29,81	11	13	6	0	0	0
December	46,6	55,6	59,1	29,84	29,72	29,78	7	15	9	0	0	0
An. mean.	60,7	67,9	72,4	29,84	29,74	29,70	95	166	93	28	9	2

1838.	*Thermometer.* 6 A. M.	12 M.	6 P. M.	*Barometer.*			cl.days	cl'dy.	rain	thaw	fog.	snow.
January,	47,6	52,2	55,6	30	30, 2	30, 5	5	18	8	1	0	0
February,	37,6	41,9	47,6	29,92	29,91	29,87	4	12	7	3	2	5
March,	55,6	60	66,8	29,79	29,71	29,73	2	9	9	3	14	0
April,	61,8	71,6	74,6	29,74	29,74	29,70	2	19	4	3	5	0
May,	62,2	70,2	73	29,66	29,69	29,67	1	17	13	3	0	0
June,	72,6	85,5	88,1	29,69	29,73	29,67	1	27	2	1	0	0
July,	76,4	82,5	85,1	29,80	29,77	29,79	0	19	12	10	0	0
August,	74,3	83,6	84,5	29,75	29,76	29,71	0	19	12	13	0	0
September	66,5	76,2	78,9	29,68	29,72	29,71	10	14	6	2	0	0
October,	56,5	65,3	65,4	29,80	29,80	29,79	8	15	8	1	0	0
November	46,2	56,8	55,3	29,88	29,89	29,87	5	11	7	2	7	0
December	37,9	46,2	50,2	30,03	29,93	29,91	5	13	7	0	3	5
An. mean,	57,9	66	68,8	29,89	29,89	29,79	93	193	92	42	31	10

1839.	*Thermometer.* 6 A. M.	12 M.	6 P. M.	*Barometer.*			cl.days	cl'dy.	rain	thaw	fog.	snow.
January,	43,4	52,7	58,8	30,02	29,97	29,88	0	21	10	2	0	0
February,	45,5	51,9	55	29,99,7	30,10	29,98	5	13	10	0	0	0
March,	53,4	59,7	64,8	29,90	29,91	29,90	2	19	8	2	2	0
April,	68,9	74	82	29,73	29,71	29,67	2	25	3	2	0	0
May,	68	80	81	29,71	29,73	29,70	4	20	7	7	0	0
June,	74,8	84	88	29,77	29,78	29,78	0	26	4	4	0	0
July,	75,4	86,5	89,6	29,69	29,70	29,70	0	23	8	5	0	0
August,	74,2	84,5	86,5	29,73	29,74	29,71	2	23	6	7	0	0
September	68,7	79,8	82,7	29,80	29,80	29,78	0	23	3	1	4	0
October,	63,8	74	77	29,82	29,82	29,50	0	20	3	0	8	0
November	48,3	54,2	55,7	29,01	30,89	29,60	3	14	10	1	3	0
December	44,3	47,2	49,1	29,89	29,78	29,82	8	9	9	0	5	0
An. mean,	61,1	69,1	72,5	29,82,5	29,82,5	29,69,9	26	235	82	31	21	0

The measles prevailed during the winter and spring of 1836; the excitement was open and where treatment was necessary, it generally yielded to emetics of calomel and ipecac 8 or 10 grs. each, followed by gentle laxatives of Epsom salts and

senna, or calc. magnesia, anodyne sudorifics of Dover's powder, or paregoric, and ipecac wine, at night, with the free use of mucilaginous drinks.

A few cases terminated in pneumonia, or acute bronchitis requiring depletion to the extent of making a decided impression on the system or relieving pain and difficulty in breathing, assisted by mild laxatives, blisters, and, if not speedily relieved, alterative doses of calomel and ipecac, repeated every second, third or fourth hour, until the secretions of the liver and mucous membranes improve or a slight ptyalism commences. The combination of Coxe's hive syrup and paregoric, was used as an expectorant, given in elm, flaxseed or gum arabic mucilage. In a few enervated habits, the eruption did not develope itself, or it receded suddenly, with general coldness of the surface, livid complexion, difficult respiration and great restlessness. In such cases, stimulating baths of mustard, or frictions with pepper or mustard in hot brandy, were advised, and full portions of camph. vol. alkali and calomel were repeated as circumstances indicated. The compound which I employed was the following:

℞. camph. and vol. alk. each 5 grs., calomel 5 to 10 grs. mixed, to be given every 2 or 3 hours. As a drink, the decoction of polyg. senega or warm toddy, until the excitement was diffused, or the symptoms were relieved.

Many who had been previously affected with measles, had slight catarrhal fever.

The treatment of bronchitis with the exception of blisters to the throat or neck, and mild gargles, differed but little from that of pneumonia.

Influenza occurred late in the spring amongst the blacks on a few plantations, of quite a malignant character—cough, sore chest, pain in the head and back, a white or blue furred

tongue with red edges, and moderate thirst. In most cases there was no chill, action of the pulse moderate, breathing difficult; but in some, the excitement seemed crippled, and irregularly diffused, extremities cold, and the stomach irritable with great nausea and restlessness, and after the third or fourth day sub-inflammation of the whole mucous membrane with diarrhœa frequently closed the scene.

In the open form of the disease, moderate depletion, emetics of cal. and ipecac. or lob. inflat. laxatives, alterative doses of calomel and ipecac, counter irritants to the chest and extremities, expectorants, and Dover's powder at night, generally relieved. In many cases, regardless of the *endemic* character of the disease, the patients were either suddenly prostrated by a single large bleeding, or under frequent small bleedings, drastic purges of calomel, aloes, and scammony or jalap, and premature blisters, generally sunk into a typhoid state, with engorged lungs, and rattles, and died about the sixth or eighth day.

A mild remittent, and intermittent fever, with griping and loose bowels, (in those who had fever during the previous fall) succeeded the influenza and yielded to the usual remedies.

From 1st of May until July, there was little disease, some cases of bowel complaint in children, with consecutive determination to the head, ending in spasms. Emetics of calomel and ipecac, 4 grs. each, followed by minute portions of the same as an alterative, with mucilage, generally cured—leeches or cups to the abdomen or head, were very useful to some.

July was more sickly, and early in the month, there were some severe cases of fever on the flat lands with great determination to the head; general and local depletion, the cold douche, with brisk mercurial cathartics relieved most of the cases. Coughs and bowel complaints were common amongst chil-

dren, and there were a few cases of chronic dysentery the sequelæ of measles.

On the high-land plantations there were a few cases of malignant double tertians, and more sickness in town than usual; diarrhœa, dysentery and whooping cough amongst the children—fever amongst grown persons quite obstinate and attended with severe hiccough. Bleeding and mucilaginous drinks relieved the head, the hiccough and the heavy exhalation from the skin and bowels, calomel restored the healthy secretions, and as soon as there was a sufficient remission, quinine in from 2 to 5 gr. doses, every second hour completed the cure.

The diseases in August did not vary either in form or violence from those of July.

In September, disease increased considerably, in the form of remittent fever, dysentery and frequent cases of malignant double tertian, the severe paroxysm commencing at 10 o'clock, A. M., and the light one at 4 P. M., on the following day. Some died in the first cold stage sinking immediately into fatal collapse, and but few survived the third chill, unless it had been preceded by very prompt and active treatment. In most cases, the stomach and bowels took on choleric action; some after one or two convulsions, sunk into profound coma, and in every case when there was any show of reaction, it was feeble, irregular, and terminated in an icy coldness of the surface, the tongue moist, very pale and clean, or covered with a blue moist fur, and the thirst moderate.

This form of disease I fear has been too often mistaken (in some parts of this State) for Dr. Armstrong's congestive typhus and treated accordingly. They are antipodes, so far as respects the pathological condition of the organs, but I shall decline saying any more on the subject it being rather irrelevant.

In the above form of disease, where the patient was seen

in the first paroxysm of torpor, if there was some effort to react the remedies which were used with most success, were emetics of calomel and ipecac, followed by large alterative doses of the same, at intervals of one, two or three hours, until secretion was procured from the bowels, with frictions perseveringly applied to the extremities, and warm drinks until reaction was established. Whenever the action began to decline, full doses of quinine every second or third hour, alternated with ten grain doses of calomel, with sinapisms of mustard to the extremities, prevented a return of the chill and torpor. The medicines were then continued in smaller quantities, and at longer intervals, until the secretions became natural and the patient convalescent. The following is my mode of administering the quinine:

℞ sulph. quin. grs. x.
Pip. nig. ol. grs. i. M. ft. pil.

One to be taken every hour, or once in two hours.

When the patient was not seen before the second chill, the extremities were icy cold, stomach very irritable, contents of the bowels liquid; a warm mustard, pepper or salt bath or mustard sinapisms to the stomach and extremities, blisters, quinine as above prescribed alternated with calomel twenty grains, sulph. morph. 1-6 grain, together with warm stimulating drinks, seemed to snatch the patient from the jaws of death, and relieved him, contrary to the expectations of friends or physician. Injections of strong salt-water were used to empty the bowels when necessary.

Many auxiliaries were tried but seemed of no effect—a slight ptyalism sometimes supervened but rather expedited than retarded the cure; convalescence was speedy and permanent.

To many readers it may seem, that too much has been said on this part of the subject, but it is one of the first im-

portance to the southern practitioner, and although some may say that less calomel and quinine would have relieved the patient, I found from ample experience, that there was no time to be lost, neither should there be any scruples about doses.

The blacks suffered more than the whites, probably from two causes, viz: the want of timely aid, and the more enervated state of the system.

There was more disease amongst the acclimated than there had been since 1831.

After severe frost, on the 20th, 21st and 22d of October, disease was more of the remittent character and bore the lancet and antimonials with good effect.

There were a few cases of complicated rheumatic states of fever in the course of the month.

But little disease prevailed in November, until the 15th, when the influenza commenced; at first very mild, but it gradually increased in violence, assuming the type of pneumonia, with severe pain in the chest, hard cough; in the worst cases the expectoration was white, thin and frothy, in the more mild it was of an olive cast, sometimes much mixed with blood; there was also oppressed breathing, either very torpid or loose bowels, high arterial excitement, white or yellow furred tongue and some thirst. Amongst the white population it required the same treatment as in the previous spring—amongst the blacks it seemed to produce sudden prostration, assuming all the phenomena of typhoid pneumonia, and requiring the treatment heretofore mentioned.

There were during the winter and spring, many anomalous symptoms, such as pain and suppuration of the ears, and of the frontal sinus, tooth ache, inflammation and suppuration of the cellular membrane, together with diarrhœa, and dysentery, all, it is very likely, dependent upon the peculiar epidemic constitution of the atmosphere.

In February there were a few cases of tonsilitis, some scarlatina, also small-pox of the distinct kind—a few of the cases were pronounced varioloid, but there seemed to be no marked distinction in them, or in the treatment required—only two or three died.

During the spring, anasarca prevailed amongst the unacclimated blacks—it generally yielded to one moderate bleeding, cathartics of jalap, or gamboge, and cream of tartar, alterative pills of calomel and squill, and the tincture of muriate of iron.

From April to August, the city and country were more exempt from disease than they had been for many previous years.

THE DISEASE OF 1837.

This has, by common consent, been called "yellow fever," but it frequently ran its course, either terminating in death or recovery, without the appearance of yellowness of the skin or eyes, which was not therefore a distinctive character of the disease.

It has been called "black vomit," but many cases proved fatal unaccompanied by that symptom, neither was that fluid found in the stomach on dissection.

It was not as some have supposed, a high or malignant grade of bilious fever—the whole surrounding country being more exempt from that disease than usual, (particularly in 1839,) there being almost an entire absence of moisture, one of the principal agents in the generation of miasma—also in most cases of recovery, the first satisfactory evidence of amendment was the plentiful secretion of a dark acrid bile, which in many instances excoriated the rectum in its passage.

It was not any of the modifications of typhus, and there was no evidence on dissection of any affection of the mesenteric or other glands.

In no case of dissection did Dr. Pollard find any degeneration of the glandular system.

Dr. Pollard saw four cases in the hospital of evident congestion, two on the first day which carried off the patients in five or six hours, the other two died later but proved of the same nature, without hiccough, black vomit or any signs of inflammation. He saw others in whom there was complete prostration of all the powers of life, without his being able to trace the disease to any important organ, the patient dying in a few hours.

It was not essential gastro enteritis, there being many cases of death without any appreciable symptom from which inflammation could be suspected, neither did dissection shew anything to justify such conclusion.

If it were neither of the foregoing diseases, the question necessarily arises—what was it? I must briefly answer that it was an assemblage of symptoms or rational signs, indicating the modified condition of such organs, as previous predisposing causes might have made obnoxious to the morbid influence of a specific cause, not cognizable by our senses, a poison sui generis, infecting a certain portion of atmosphere. A disease produced by such a cause, must be sui generis, proving fatal in many cases without the intervention of active inflammation, or the patient becoming gradually convalescent without any of the critical phenomena that could enable the most acute observer to form a correct prognosis as to the result.

The disease, after a few hours of listlessness and indisposition to exercise, commenced with a well marked chill, succeeded by free open reaction, frequent, full, resisting pulse,

pain in the head, back and limbs, red eyes, restlessness, watching and frequently delirium, terminating in profound coma before death, considerable thirst, moist, clean, or slightly furred tongue—irritable stomach, with soreness about the pyloric orifice on pressure, and in a few hours great nausea and vomiting. The bowels were generally slow, discharges of a light grey or of a blue muddy cast; the skin was commonly hot and dry, and when yellowness attended, it generally began about the second or third day, and in fatal cases, gradually increased until death—in the cases of recovery it subsided as the secretions improved. In nearly every fatal case it became yellow after death. The eyes were seldom yellow.

When black vomit was present, it usually began from twenty-four to forty-eight hours before death, and was in most cases accompanied by hiccough—the mucus which had been previously thrown up clear and mixed with small white flocculi, began to show small black specks mixed with it, rapidly increasing until it assumed its specific character, and was in most cases belched up without any effort of the patient. In some of the hospital cases the same kind of matter was discharged per anum. Hiccough was frequently distressing when there was no black vomit.

Hemorrhage was not frequent, but when it occurred from the nose, it was generally favorable—when from the mouth or bowels it was in most cases fatal—the urine was scanty and high colored, and sometimes very dark, resembling black vomit. Changes from dry to cold damp weather were very unfavorable, most of the severe cases proving fatal, and most of the convalescent relapsed unless they were very prudent. There was a suspension of new cases for a few days, late in October, which induced numbers to return to the city who had left it, and put those off their guard who had remained. Very

soon, however, the disease recommenced, and there were a number of deaths.

Males were more frequently attacked, and the disease was more unmanageable in them, than in females or children. The black population suffered least.

The young, stout, robust, and intemperate were most obnoxious. The acclimated were generally exempt, but there were a few cases amongst those who had had the disease in other places, and none of them proved fatal.

The first death in a well marked case, was on the 7th of September, nearly in the centre of the city, where the disease first appeared—there were but few cases under the Hill—the last death was on the 4th of December, and the whole number of deaths was 257.

The population of the city at the commencement, exceeded 6000, and but few left it during the prevalence of the disease.

Something may be expected on the subject of prognosis, but such was the peculiarity of the disease, and so insidious were the approaches of death, that the most experienced observer would be deceived; in fact, there were none of those critical circumstances attending most other diseases, and the remissions were very short and obscure. For several days, the organs seemed to resist and throw off its influence in proportion to their recuperative powers, the stomach and skin being generally the last to resume their normal functions. After a change of weather and two or three frosts the disease subsided.

In the *commencement* of this as of most other malignant endemics, many died of the number severely attacked, although few of the Faculty acknowledged the loss of patients. The treatment of former seasons did not succeed—antimonials as

emetics, or to answer other indications, not only failed, but in many instances seemed to do evident injury.

In the forming or early stage of the disease, after prompt depletion, in which the blood was florid, sometimes the the emetic of calomel and ipecac, followed by castor oil, or senna tea seemed to check its progress, softening the pulse and skin, relieving the head and promoting the secretions, and if judiciously assisted by local depletion from the head, spine or region of the stomach, by counter irritant and alterative portions of calomel or blue mass and ipecac or James' powder, with drinks of cold mucilage, ice water or lemonade, the chance for the patient's recovery seemed better than from any other plan. Both general and local bleeding was freely used in the hospital by Dr. Pollard with decidedly good effect.

Many auxiliaries were used as palliatives, to allay the irritation of the stomach, and to promote the specific secretions of the skin, kidneys, &c., but the ice, mucilage, milk and lime water, soda and charcoal, were the only ones which seemed to prove useful. In the hospital the oil of amber seemed to have a good effect, particularly in the only case of black vomit in which recovery took place. Seidlitz powders, castor oil, or senna tea, were useful laxatives after the secretions improved; unless the patients was much prostrated. Injections of warm water, gruel or salt water were used in that event.

During the insidious respite, or remission of the disease which frequently occurred on the third or fourth day, quinine combined with calomel, blue mass, and camphor, or oil of black pepper, and other stimulants, was tried by some, and thought very beneficial, whereas in the opinion of others, it seemed not only unprofitable, but evidently injurious, the disease again recurring with increased violence, black vomit coming on and soon closing the scene. Dr. Pollard informs me

that most of the patients taken to the hospital in the early stage of the disease, who had been previously treated with calomel and quinine without free depletion had raving delirium, red eyes, hot skin and great thirst, and, if in the advanced stage, they had low muttering delirium, dry brown, sharp pointed tongue, which they protruded with difficulty. The head was very hot and there was acute pain in the stomach, but seldom any black vomit. When there was free depletion, and calomel was combined with the quinine, it was not so injurious, but he thinks did no good.

The "post hoc, ergo propter hoc" experience in the profession has no doubt in this, as in many other diseases, done much mischief, for every candid practitioner must acknowledge that he has frequently seen cases of recovery where the recuperative powers of the system have resisted the most preposterous prescriptions, and his after and more correct experience, has made him blush for his previous ignorance.

After the subsidence of the epidemic, the city and country were very healthy, and such disease as prevailed, did not as usual seem to wear its livery in the slightest degree. From December, 1836, up to August, 1837, there was a period of severe trial with the faculty, almost amounting to starvation. The alarm was then again sounded, and the second epidemic commenced.

EPIDEMIC OF 1839.

The first case of this disease was taken to the Hospital from "under the Hill," but it soon became general; the first death was on the 27th of August, and the last on the 20th of November, and the whole number reported by the sexton, was 235, a few died who were taken to the country, and in two instances

others of the family where they were, had the disease who had not, from their statement, been within the circle where it prevailed. The population of the city at the commencement, did not exceed five thousand—many left the city immediately, and by the first of October, the number was not greater than 1500.

The acclimated and the blacks suffered more than in 1837—many were attacked who had previously had the disease, a few of whom had it severely, but there were not many of them who died.

The attack was more insidious than in 1837; many seemed quite exhilarated and boasted of their good health, but a few hours before they were attacked; but in most cases, there was great depression of spirits, indifference to surrounding objects and a horror which seemed gradually to increase, until there was a slight coldness of the hands and feet, and a sensation of chilliness down the spine—this condition was indefinite, lasting from a few minutes to several hours, before the succeeding phenomena were developed.

In the mild cases, the excitement was free and well diffused, pulse varying from eighty-five to one hundred in a minute, full, firm and resisting—the skin hot and dry and seldom yellow—pain in the head, back and limbs moderate—some restlessness and watching, but rarely delirium—the tongue was moist and clean, or covered with a thin white fur—considerable thirst; after a few hours the stomach became irritable and sore to the touch, succeeded by frequent vomiting of a fluid differing but little in character from that of 1837—the bowels very slow, the urine scanty and high colored.

In such of those cases as proved fatal, the soreness of the abdomen, vomiting, obstinacy of the bowels, and thirst increased, the secretion of urine was entirely suspended and

death closed the scene, frequently without the appearance of black vomit.

Hiccough was common, and in some cases there seemed to be a morbid secretion of gas by the stomach more distressing than the vomiting.

In the more violent form of the disease there was no appreciable chill—the skin was moderately warm or cool, and of rather a leaden hue, the excitement was irregular and crippled, pulse varied from one hundred to one hundred and thirty, with throbbing of the carotids, shrunk features, cold or cool extremities, little or no pain, great oppression of the stomach with soreness to the touch in some cases, the tongue was moist, pale, expanded, with a pale blue fur and red edges, thirst and distressing vomiting, the bowels even obstinately costive, and when evacuations were procured, they were of a dark or blue muddy cast, or liquid and almost colourless. The urine was scanty, thick and dark, resembling black vomit, or it was totally suspended.

In some of those cases black vomit came on very early, and death occurred frequently within the first three days—many seemed to die without the signs of inflammation being present, and evidently from the exhaustion of the nervous influence. In the last named cases there was frequently no black vomit. The skin became invariably yellow after death.

Hæmorrhage occasionally came on, and when from the nose it was favorable, but when from the mouth, bowels or kidneys it was always unfavorable and most frequently the precursor of death. It seemed to be the effect of calomel in but one case that came to my knowledge. In the hospital practice both in 1837 and 1839, where the patient was not freely bled in the early stage and mercury was given so as to produce salivation, it was generally severe and frequently brought on

hemorrhage from the mouth or bowels, and the convalescence was slow and imperfect—when he was freely bled the calomel answered every purpose as a cathartic and there was no necessity for it as an alterative, or for quinine.

The disease from the 16th of November, became gradually milder and ultimately subsided without any remarkable change in the weather.

The rational signs of improvement whereby the physician could form his prognosis as to the probable event of the disease, were more obscure than in 1837—the convalescence was gradual and progressive without any specific crisis.

I saw but one sporadic case—it occured in February, the patient had been sick six days and was mortified, death taking place in ten hours after I saw him. In this case there was no symptom indicating to me, the approach of death—the mind was calm, pulse open, soft, and eighty strokes in a minute—skin warm and moist, stomach quiet, but the bowels liquid.

No prophylactic except temperance in all things seemed to prevent the disease—calomel was relied on by some, but several were attacked when under its influence, and some died when highly salivated although it was generally favorable.

TREATMENT OF THE DISEASE IN 1839.

In the first cases which occurred, the attack was so insidious, the deaths so frequent, under circumstances which, when present in the ordinary fevers of the country, would not warrant such a result, that the faculty were astounded, the firmest of them were thrown off their balance, and it became a perfect matter of experiment with them. Some gave antimonial emetics, and as an after treatment, relied upon cupping,

mild laxatives, mucilage, counter irritants, and diaphoretics—some bled moderately, cupped, gave no cathartics, used injections, counter irritants and diaphoretics, palliatives to relieve the stomach, and quinine—others gave strong mercurial cathartics, followed by alterative doses of calomel, camphor and quinine, stimulating diaphoretics, with warm teas: many other plans were tried not necessary to notice.

After the panic had somewhat subsided and reflection and reason resumed their empire, the faculty began to take a different view of the disease, and the most successful treatment so far as I saw and was able to learn from the very intelligent physicians of the place, was a judicious modification of the following outline:

In the mild form, when the reaction was free and open, one full general bleeding, (the blood generally florid or of a scarlet red,) had a very happy effect, in allaying the pain, thirst, irritation of the stomach and obstinacy of the bowels—this was usually followed by a full dose of calomel alone, or combined with ipecac or James' powder, and if it failed to operate as a cathartic in six or eight hours, castor oil, senna or some other laxative was given to promote its operation. Cupping followed by mustard sinapisms to the stomach, gave great relief—ice water, mucilaginous lemonade, or cold toast water, taken in small quantities, generally allayed thirst, and a few alterative doses of calomel or blue mass, either alone or combined with camphor and quinine, improved the secretions, modified the succeeding exacerbation and seemed so far to disarm the disease, that the after treatment, consisted of attentive nursing, an occasional Seidlitz powder, castor oil, magnesia, or injections, to regulate the bowels, with an occasional anodyne sudorific at night. Some continued the alterative until gentle ptyalism commenced, and there were but few cases in which it was excessive or proved injurious.

In the more violent or irregular congestive form of the disease, the first and all important object was to diffuse the excitement, relieve the oppressed organs, and enable the brain and nervous system to supply and regularly distribute a sufficient quantity of nervous influence, to excite the secreting organs to resume their functions, and thereby prevent the sudden and unaccountable deaths, or the permanent local congestions, which either quickly resulted in active inflammation with its consequences, or became a focus of irritation, which although more protracted in its influence generally proved fatal.

There were two plans adopted to fulfil the necessary indications, each of which had its advocates amongst the most intelligent of the profession, both claiming a reasonable share of success as the result; but as the illustrious Sydenham has said "we do not always cure disease in the best way."

The first was (in the early or forming stage of the disease) to administer full and frequent doses of quinine combined with blue mass or calomel, and camphor, oil of black pepper, or other diffusive stimuli—cupping the region of the stomach, sinapisms of mustard to the extremities, frictions and external warmth, continued until the action was diffused; after which if any important organ was threatened, or other circumstances indicated, general bleeding was resorted to, together with alteratives, laxatives and other remedies, as advised in the mild or open form of the disease.

The second plan was to detract blood, in small quantity, and repeat it according to circumstances, in the forming stage. The blood was generally of a dark modena cast and difficult to obtain, but after reaction was developed it was very florid and buffy. In one or two cases it had a peculiar fœtor very offensive to those who were present. In the hospital depletion was resorted to in frequent small quantities to

procure reaction with the happiest effect. To this succeeded the administration of calomel and ipecac, so as to make a moderate impression on the stomach; this was followed, in a few hours, by laxatives of calomel, magnesia and rhubarb, salts and senna, castor oil or Seidlitz powders; cupping the region of the stomach or skin which was always useful: sinapisms to the extremities and warmth were likewise employed to the surface; and when the reaction became fully established one full general bleeding. This allayed the gastric irritation and thirst, and prepared the organs to resume their functions under the administration of the proper secernents. Blisters were sometimes used, but were rarely beneficial, producing severe strangury, which nothing seemed to palliate. Patients, indeed, frequently died under its influence. Magnesia in sweetened water, carbonate of soda, ice water, or milk and lime water, were the best palliatives in irritable stomach—charcoal was used, but without any marked advantage. In the hospital the oil of amber seemed to answer better than any other remedy. Relapses were more frequent than in 1837, and in most cases fatal.

A very fine white vesicular or miliary eruption sometimes appeared about the neck and chest, and was always a fatal symptom.

Very dark vitiated evacuations from the liver and mucous membranes of the bowels were generally the first well marked evidences of improvement—these were followed by such as were of a more healthy cast, and in some cases continued for several days before the gastric irritation entirely subsided.

I am not prepared to treat of the ætiology of this fever. Its pathology may be inferred from the symptoms, the effects, as detailed, of different modes of treatment, and the autopsic examinations of my intelligent young friend, Dr. Pollard, (resi-

dent physician of the Hospital,) which are annexed to this paper.

All the bodies examined after death, were those in the hospital. They had generally been paupers, of loose, intemperate habits; most of them young or of middle age, whose organs no doubt, from previous habits, were predisposed to congestion, or to active inflammation from the application of any exciting cause, and many of them in 1837, had not been depleted during their out-door treatment, but had taken freely of calomel and quinine: hence some allowance ought to be made for the frequent extensive structural lesions found in the organs, many of which might not have taken place under different circumstances.

I shall give Dr. Pollard's Report as handed to me by himself.

"Dissections were generally made four hours after death, by myself assisted by Dr. T. C. Lawrence, both in 1837 and 1839. The skin became yellow, after death, when it was not previously so; the back and under parts of the limbs, placed in a horizontal position, were of a dark red and sometimes ecchymosed appearance. On opening the head in those who had been bled, or the disease had been suffered to run an uninterrupted course, the dura mater was natural, the tunica arachnoides and substance of the brain were natural; in some of those cases, a tea-spoon full of serum was found in the lateral ventricles. The lungs were natural, filled as much as common with air, and with blood collected in their lower parts as they lay. The substance of the lungs was generally healthy. In the abdomen, the stomach, when laid open, was found to have undergone some alteration in almost every case; red patches were to be found in some, as large as a dollar, in others smaller; they were generally about

the pyloric orifice, but rarely in the cardiac portion. The organ in most instances, contained nothing except what had been administered to the patient.

The red spots were also very generally to be found in the duodenum. The other bowels presented a healthful appearance.

The liver was paler than usual, the gall-bladder contained a small quantity of green bile. The spleen was also pale. The kidneys were generally healthy, but in three or four cases they contained mucus.

I observed that in those who had not been bled or who had taken quinine, the brain had suffered. The arachoid was engorged, and the ventricles almost always contained an excess of serum. On making a section into the substance of the brain, small points of blood appeared in numbers. The red spots on the mucous membrane of the stomach and duodenum were large and numerous. In those who died of black vomit, sometimes the same was found in the stomach and bowels, but the mucous membrane was entire, only showing the marks of inflammation. These observations were made in 1837.

The cases that I examined in 1839, presented pretty much the same features in the stomach and liver, only in a more aggravated form. The brain this year was seldom altered from its natural character. In some two or three, serum was contained in the lateral ventricles. The lungs in many were filled with blood, and the auricles of the heart, particularly engorged. The pericardium contained more liquid than is natural. The stomach and duodenum were highly inflamed (except in the cases to be mentioned,) the mucous membrane in some was softened and covered with a viscid mucus. The liver was pale and the ducts filled with mucus, The gall bladder seldom had much bile in it and in some it was filled

with a gelatinous mucus. The bowels, with the exception of the duodenum, had no traces of disease, even in those who had voided blood, except that the membrane was softened.

The bowels contained sometimes blood, and sometimes mucus. The kidneys were also filled with mucus which would run from them when squeezed, as from a sponge filled with water.

In the cases that died from want of reaction in the commencement, I could observe no very marked diseased condition. The brain looked quite healthy, and also the viscera of the chest. The stomach was slightly altered about the lower orifice, small red points were seen, which were also to be perceived in the duodenum. The kidneys in these cases were natural. The mucous membrane of the bladder was healthy in all the subjects."

ART. II.—*Cases of Fracture of the Skull presenting some singular phenomena.* Read before the Medical Society of Tennessee, and reported for the Western Journal. By WILLIAM G. DICKINSON, M. D., of Nashville, Tennessee.

J. D. aged twenty-two years was thrown by a horse while at full speed, and was found lying on his side; his head protected by a felt hat, was about ten inches from a large post. It was *believed* that the head came in contact with the ground and post at the same time, but no external sign indicated that his head had been injured; no puffiness, or the least abrasion of the harry scalp could be detected by the most careful examination.

He was insensible, breathing slowly, but not laboriously;

in this respect there was no change while he lived. On the second, third, fourth and fifth days he swallowed whatever was put in his mouth, his urine and fæces were passed involuntarily, and he died on the tenth day after receiving the injury.

EXAMINATION TWENTY HOURS AFTER DEATH.

The whole of the hairy scalp was removed, the pericranum adhered to the bone throughout, except where it had been separated by the surgeon.

On raising the skull about two ounces of semi-transparent fluid escaped. The longitudinal and lateral sinuses were filled with dark coagulated blood. The veins of the cerebrum were but partially filled even at their base, while those of the cerebellum were distended almost to bursting, and the whole mass of the cerebellum was enveloped in three or four ounces of semi-purulent fluid slightly tinged with blood.

On raising the dura mater from the base of the skull a fracture was found extending entirely across its base through the petrous portion of the temporal bone, and reaching about one inch above the external ear on each side. On the anterior part of the petrous portion of the temporal bone of the right side was an isolated portion of the bone, but connected with the line of the fracture on one side, about half an inch in width and three-fourths of an inch in length, which was forced from within outward upon the internal ear, as if by a blow of some small instrument impinged on the internal surface of the bone. On the left portion of the pars petrosa was a similar isolated piece also connected with the line of fracture, of about the same width as the former and more than one inch in length, its longest diameter corresponding with the lateral

diameter of the skull. No remark was made or conjecture hazarded, by the professional gentlemen present, as to the cause which had produced this novel appearance.

These pieces were detached from the dura mater, which, except a slight effusion externally, where the vessels were torn from the isolated portions of bone, seemed in a perfectly healthy state; as it did also along the whole extent of the fracture; and the brain and other parts adjacent had the like appearance of exemption from the effects of the shock, which produced such fearful effects on the contiguous bony structure.

Case 2d.—W. aged about twenty-five years, received a blow from a flat surface on the left side of his head, parallel to the superior orbital process; the force of the blow was expended on the os frontis where it, the temporal and parietal bones join. He was standing, and did not fall, but reeled and staggerd backwards—he died on the third day.

Autopsy.—The skin and external integuments were entirely sound; nor was there the least vestige of fracture on the external parietes of the cranium. But on the superior orbital plate of the os frontis, was a fracture which included a piece of the orbital process, one inch in length and three-fourths of an inch broad. The isolated piece was irregular and angular; its longest diameter from left to right. This pressed upon the orbit of the eye from within, as if the blow had been received on the inside of the skull, from above downwards: and the lamellated nature of the fracture showed that it could never have been forced in upon the brain, the sides being scaled off from within outward and lying upon the part from which it was separated, not unlike the squamous suture, the broadest part being external. The portion of the fracture most distant from, and opposite to the point of injury, was perpen-

dicular and nearly straight, constituting as it were the base of the fractured piece. The dura mater over this fractured portion was sound and there was nothing in its appearance to indicate the injury which the bony structure had sustained beneath.

I have purposely passed over the symptoms and treatment; it is sufficient to say that the cases though widely distant, were treated by professional men, eminent for their practical and scientific acquirements. As the symptoms gave no indications of the injury which was found to exist after death, of course the treatment had no reference to it. Doctor R. C. K. Martin was attending surgeon, and by him the examination was made, in the presence of Dr. Felix Robertson, President of the Medical Society of Tennessee, and myself. Both bear testimony to the correctness and fidelity with which the facts are here stated.

I wish simply to call the attention of the profession to the fact, that the arch of the cranium may give way at any point *between* the point of injury and the point of resistance, always supposing the side opposite to the point of injury, to be the point of resistance, and that whenever it does so give way, from the very nature of its form, the parts isolated must of necessity be forced from within outward; and that it is always liable to this kind of injury when the surface is large on which the blow is received, and particularly so if the impinging force is in a degree less than that which would break through the arch at the point where the injury is received. It is also probable that the bones of an old person or a very young one would not suffer in this way; the former would be too brittle, and the latter too soft; and both would give way at the point of injury or not at all. It may be that the shock which the substance of the brain must sustain in receiving an

injury of this character may always be fatal, as it was in the cases narrated. Still my object will be attained by calling the attention of the Society to the fact that the skull is liable to this kind of injury.

Nashville, May, 1840.

ART. III.—*Proofs of the health-preserving properties of the Jussieua Grandiflora or Floating Plant.* By SAMUEL A. CARTWRIGHT, M. D. of Natchez, Miss.

To a considerable number of plants all ages have ascribed therapeutic properties, or such as cure disease. I propose to introduce to the notice of the profession a plant possessing hygienic properties, or such as prevent disease.

The region of country where I found this plant growing in the greatest abundance is in Lower Louisiana, the most southern portion of the territory of the United States, except the peninsula of East Florida. It lies between the 29th and 30th degree north latitude, and between the 80th and 92d degree of west longitude. New Iberia, Donaldsonville, and New Orleans are situated near the northern boundary of this region, and the Gulf of Mexico constitutes its southern limits. With due allowances for the large lakes, bays and indentations of the Gulf of Mexico, it contains about seven thousand square miles—a territory about equal in extent to the State of New Jersey. Not more, however, than one-third is arable land; the other two-thirds being subject to annual inundation from the Mississippi river, and composed of cypress and palmetto swamps, small lakes, bayous and *Prairies Tremblant* or shaking prairies. The tillable land is exceedingly fertile and is

but a few feet above high water mark. There is nothing like a hill in this whole region of country with the exception of a few Indian mounds. The soil is entirely alluvion of recent formation. The high or arable land lies on the margin of the lakes and bayous. It is not, generally, more than from half a mile to a mile in width; and gradually slopes back from the bluff or high banks of the lakes and bayous with a gentle declivity of three or four feet to the mile to a cypress swamp, beyond which is a palmetto swamp, then comes a *prairie tremblant*, in the centre of which is commonly a small lake. Beyond the *prairie tremblant* is another palmetto swamp, then a cypress swamp, then comes high land again, extending from the swamp with a gentle ascent to another bayou or lake. The bayous are very numerous; some of the principal ones are the Lafourche, the Blue, Terre-bonne, Cailliou, the Black, Buffalo, Alligator, Boeuf, Teche, Atchaffalaya, &c. Barataria, Palourd, and Tampelier are the largest lakes. Berwicks, Atchaffalaya and Vermilion are the most important bays. The water in all the lakes and bayous, except Lafourche, is entirely stagnant and has no motion but what it receives from the winds, except very near the Gulf of Mexico, where a slight motion is given to it by the tides. Even when the Mississippi river inundates the low lands and swamps, there is little or no current in the water which finds its way out of the banks of that river. The bayou Lafourche is nothing but a natural canal or aqueduct leading from the Mississippi river to the Gulf of Mexico by a shorter route. It is a small embrasure of the Mississippi river, and is only navigated by barges and light steam boats. It differs from these bayous, properly so called, which are nothing more than stagnant canals or natural channels not generally wider than the Schuylkill, extending from the south in nearly parallel lines to the Gulf, and

remarkably straight in their course; or connecting the different lakes with one another.

The first quarter or half quarter of a mile on the right and left of the bayous, in the uncultivated parts, is generally covered with a magnificent growth of live oak, *Quercus virens.* The branches of this tree spread out horizontally to the distance of thirty feet or more from its trunk. The balance of the high land, extending to the cypress swamp, is covered with a lofty forest rendered almost impenetrable in its natural state by reason of its dense undergrowth of cane. The cane is from ten to twenty feet in height. The culms of the cane are not generally more than an inch or an inch and a half in diameter. The culms stand so close together that a bird can with difficulty fly through them, and an active man can scarcely travel half a mile an hour in the thicket.

The principal trees which overshadow these cane-brakes are remarkably large and tall. The long gray moss, the *Tillandsia Usneoides*, several feet in length, suspends itself in thick clusters from their boughs. The wild grape vine, which is often near a foot in diameter, ascends their trunks and spreads itself among their branches; and the ligneous rope, *the liandre*, often out-climbs the grape vine, and having tied the branches of the trees together, descends again to the earth, takes root, climbs another tree or twines its smooth and polished surface around the parent stem. Besides the live oak and several other species of the *genus quercus*, the principal trees of the arable, or high land, are the sweet gum, *Liquidambar Styraciflua*, the blue and white ash, *Fraxinus Quadrangulata*, and *F. Acuminata*, hack-berry, *Celtis Crassifolia*, the Pacane tree, *Juglans olivaeformis*, which bears the nut called pacanes, or pecons; the honey locust, *Gleditschia Triacanthos;* the cotton-wood tree, *Populus Argentea*, a very

different tree from the *Populus Canadensis*, also called cotton-wood tree, of more northern latitudes. The cotton-wood tree of the south, though a tall tree, two or three feet in diameter, differs, I believe, from all other trees, in having roots like the grasses—the roots being fibrous, not racemose, as other trees, but consisting almost entirely of long slender fibres, or radicles, without a caudex. The sassafras of the genus laurus, grows in this district of country to a large size, its trunk being often two or three feet in diameter. The sumach belonging to the rhus genus, although a dwarf in size, is deserving of notice, as it is a certain indication that the land on which it is found growing is not subject to inundation.

The cypress swamps in rear of the arable or high land, have no undergrowth of cane—but are thickly beset with *cypress knees*, rising from two to six feet in height, erroneously supposed by Michaux, to be excrescences of the root of the cypress tree, the *Cupressus Disticha*. They differ as much, however, from the root of the cypress tree, as the misletoe differs from the oak on which it is found growing. They are evidently parasites of the root, entirely different, either from the cypress tree or its roots, being double hollow cones closed at both ends, one apex descending several feet perpendicularly into the earth, and the other as many above the earth's surface. They are constituted of a dense alburnum, covered with bark, having no branches, either above or below, and no connection with any other substance, except the radicles of the cypress root, to which they owe their origin. The swamps in which these singular vegetable productions grow, are principally shaded by cypress trees, the lords of a southern forest, which afford a most durable and valuable timber. The palmetto swamps lie almost posterior to the cypress swamps, and extend to the margin of the prairie-tremblants. These swamps

do not contain any large trees, except the wild olive, a tree which grows in very wet places, has an ash-colored bark, smoother than the cypress, and bears a berry about half the size of the olive, and very like it. Its leaves fall off soon and turn red before falling; but the principal growth of the low swamps is the palmetto, or dwarf, fan palm, *Chamærops Humilis*, rising from five to ten feet in height, having a long fusiform root. It would seem that the *flabellum*, or fan-like expansion, which constitutes the external portion of this shrub, exists originally in miniature in the root. Because if the top of the root be cut off in the spring, it will nevertheless send its flabelliform leaves, not with acuminate points, as in the natural state, but premorse, as if they had been clipped off with a pair of shears. When land containing a growth of palmetto, is reclaimed by ditches, the practice pursued by some of the planters is to thrust an iron crow-bar, perpendicularly into each palmetto root, before putting the land in cultivation, otherwise the root, which is too deep to be extirpated by the plough or the hoe, will continue to send up premorse leaves which will be very troublesome. It is somewhat singular, that the palmetto land, when reclaimed from inundation, is the very best land in the world for cotton. The cotton plant, on palmetto land does not grow tall, but is short-jointed and contains more bowls or pods by one-third, than the cotton plant on cane land.

The lakes and bayous of lower Louisiana abound with fish and contain great numbers of alligators; also alligator-gars, a fish without scales, partaking of the nature of an alligator and a cat-fish. Though much smaller, they are far more dangerous to persons who venture into the water than the alligator. Nearly the whole surface of many of the bayous and a considerable surface of many of the lakes, in all that part of Louisi-

ana below 30° of latitude, are covered, in a greater or less degree, with the Jussieua Grandiflora, the plant, which possesses hygienic or health-preserving properties. Besides the Jussieua Grandiflora, I observed a considerable number of other aquatic plants, both phænogamous as well as cryptogamous. Among the aquatic plants were the *Callitriche aquatica* or water star grass; the *Lemna minor* or Dutch meat; the *Riccia natans* or floating liverwort; the *Nympha cærulia* with its broad leaves; the *Isnardia palustris* with its grass like leaves; besides the *Rafflesia arnoldia*, the *Lemnochœris Humboltii*, the *Hydrocotyle vulgaris*, and a few others. On the bays, the fucus natans or gulf weed, was very common. Nearly all the aquatic plants, with the exception of the Jussieua grandiflora, the Lemna Minor, and the Fucus Natans, had more or less attachments to the soil by means of their roots. The fucus natans was only found in salt water. The lemna minor is a very small and insignificant plant. The Jussieua grandiflora, however, is excluslvely aquatic. It is a large flowering plant, which grows three or four feet above the surface of the water, and gives the water on which it grows the fallacious appearance of a natural meadow. The root is several feet in length, is jointed, about half an inch in diameter; lies horizontally on the water, but an inch or two below its surface. Each joint sends up the culm or stem of the plant, and around each joint of the root; at the foot of the stem are a great number of radicles or hair-like roots, some of which float on the surface of the water, and others dip down towards the bottom or fasten themselves to old logs. These radicles or little roots, often have adhering to them an inky kind of paste or substance, which they collect from the water, and no doubt constitutes the nourishment or proper aliment of the plant to which they belong. The roots, radicles and radicle leaves of

the Jussieua Grandiflora, form such a dense covering to the water, as to constitute a bridge sufficiently strong to enable snakes and grass-hoppers to cross over the stagnant pools in which it grows. I travelled forty miles in a canoe through bayous and lakes, which were almost entirely covered by the Jussieua Grandiflora and intermixed with a number of other aquatic plants. I was often unable to see any water at all, except in the track made by the canoe. Although very frail, and easily pushed aside or broken, this floating plant afforded considerable resistance to the progress of the canoe. On the wide lakes and bays, the winds often detach large masses of this and other aquatic plants, which being driven about by the waves, and one detachment forced upon another, constitute what are termed *floating Islands*—which are often strong enough to bear the weight of a man in a recumbent posture. The Jussieua Grandiflora, together with the other aquatic plants mentioned, are not only found on the lakes, bays and bayous, but they constitute the sub-stratum of that singular and non-descript species of savannah called the *prarie tremblant*. These prairies are constituted in the first instance of a vast assemblage of aquatic plants. On this vegetable stratum, intermixed with the debris of other vegetable substances, a number of grasses and terrestrial plants like parasites, fasten themselves and grow. The whole is formed into a complete vegetable mattress, strong enough to support a man in a crawling position, but not sufficiently firm to enable him to walk upright. It is also too firm to admit of the passage of a boat or canoe. When the foot is placed upon it, the whole mass trembles; hence the French name *prairie tremblant*, and the English name *shaking prairie*. It is said that if a hole is cut in it, fish may be caught with a hook and line.

The facts on which I rest the hygienic or health-preserving properties of the Jussieua Grandiflora, are—

1st. That it purifies all stagnant water in which it grows:

2. The remarkable exemption of the inhabitants of that section of Louisiana from malarious or miasmatic diseases.

1. The water on which the Jussieua Grandiflora grows differs essentially from other water, similarly circumstanced, where this plant does not grow. Although I visited the country in which the plant is indigenous, during a very dry and hot season, in the month of June, I found the stagnant water of the lakes and bayous, inhabited by this plant, as pure to the sight, taste and smell as if it had just fallen from the clouds. Near the Gulf of Mexico, however, the water of the bayous was impregnated with salt. The water also of Bayou Black, although fresh, had a darkish appearance—owing to a chemical affinity between some ferruginous matter in the soil, and the oak trees and leaves which had fallen into the water. The water of Bayou Black, although of a dark color, was free from any disagreeable taste or smell. It contained no green scum, and was considered to be equally good and palatable as cistern water; except near the Gulf, where the water is impregnated with salt; the inhabitants, who reside on the margins of the stagnant lakes and bayous of that part of Louisiana, drink no other kind of water.

I could discover no other cause for the remarkable purity of the stagnant water in the lagoons, swamps, lakes and bayous of lower Louisiana, than the aquatic plant under consideration.

North of the region where the Jussieua Grandiflora flourishes, there is the same kind of alluvial soil, formed by depositions of the identical rivers, which form the soil of Lower

Louisiana, yet stagnant water in hot weather, becomes exceedingly impure, beyond the limits in which the plant under consideration is found. The soil, therefore, cannot occasion the purity of the water of Lower Louisiana, because the same kind of soil, a little further north, has not the same effect. Nor can the purity of the water be owing to the salt or sea water; because the water is equally pure, wherever the aquatic plant grows, whether in salt water or fresh.

I think it may be fairly inferred, therefore, that the aquatic plant known by botanists under the name of Jussieua Grandiflora, consumes or feeds upon those substances, which in other situations corrupt and vitiate stagnant waters in a warm climate.

2. The remarkable health and longevity of the inhabitants, and their exemption from malarious and miasmatic diseases. The fact that the region of country in which the aquatic plant abounds, is exceedingly healthy, can be established beyond cavil or dispute. It nevertheless contains more stagnant water and swamps, than any other inhabited district of the same extent in the United States.

The country immediately north of the line bounding the growth of the floating plant, which is about the thirtieth degree of north latitude, like that south of thirty, is alluvial, contains lakes, swamps and stagnant waters—is covered with nearly the same vegetable productions; but its atmosphere is evidently insalubrious, its stagnant waters impure, its inhabitants sickly, and human life of short duration; while the country of the aquatic plant, immediately south of it, contains a wholesome atmosphere, pure water, healthy, and long-lived inhabitants. It may be supposed that this country is too new and too thinly inhabited to form any correct estimation of the health and longevity of its inhabitants. Such a suppo-

sition is erroneous. Although a considerable part of the region abounding in the aquatic plant is uncultivated and almost uninhabited, yet a very considerable portion of this territory has been settled nearly a century. A large colony from Nova Scotia emigrated to it before the revolutionary war. Some of the settlements south of New Orleans contain more free white inhabitants to the square mile than the oldest and most populous settlement in Pennsylvania.

It may be said that the inhabitants are the descendants of French and Spanish, and consequently no just comparison can be drawn between them and the descendants of the English. It is true that a large portion of the inhabitants are of French extraction. A large settlement of them on the Lafourche, within this region, were born north of the United States, in the cold latitude of Canada. Colonel Sparks, an intelligent sugar planter, who resides on the Bayou Lafourche, in the midst of the colony which emigrated from Nova Scotia more than half a century ago, informed me, in 1831, that a great number of the emigrants were still living. He took me to a number of their houses, and his statements were confirmed by the inhabitants themselves. I saw more than a sufficient number of gray heads and healthy looking children to remove all skepticism in reference to the health and longevity of the inhabitants. Besides the French population, this particular section of country has spread through it a number of Italians, Spanish, Dutch, German, Irish, English and Scotch. It also contains emigrants from almost every State in the Union. The negro population is also considerable, and is remarkably healthy and long-lived. It contains more negroes over one hundred years of age, than five New England States put together, including the total population, white and black. The population of this land of aquatic plants owes its origin to so

many different nations, that it is not uncommon for the Creoles or natives of the country, even when uneducated, to speak with great ease three or four different languages. If it were true, which it is not, that the French people are exempt from miasmatic diseases, such as bilious, remittent and intermittent fevers, it would prove nothing; because the Germans, Spanish, Italians, Scotch, Irish and English, together with the negroes and emigrants from the States north of Louisiana, are all in this land of aquatic plants singularly exempt from such diseases. But neither the French nor any other race of people are thus exempted when they cross the line which terminates the growth of the floating plant. It is therefore a fair inference that this plant, by consuming the impurities of the stagnant waters, prevents the generation of miasmata, and thus acts as a prophylactic against bilious fevers and othermiasmatic diseases.

I am aware that the inhabitants of the country themselves attribute their peculiar healthfulness to the influence of sea-breezes. Out of the region of the floating plant, sea-breezes, however refreshing and beneficial to some constitutions, have not been found to exert any prophylactic power in preventing miasmatic diseases. It is not probable that sea-breezes would do more good for the sea coast of Louisiana than for the sea coast of Georgia, Carolina, Virginia and Maryland.

In the summer of 1831, I travelled extensively through Lower Louisiana, and am fully convinced from what I saw and heard that the particular district of country in which the floating plant abounds is pre-eminently healthy, while those sections of the State, similarly situated but where the aquatic plant was not found, are grievously afflicted with malarious diseases.

I visited, among others, the plantation of M. Rochelle, on a

small bayou, near Berwick's bay. The dwelling houses stood on the high ground, about a quarter of a mile from the bayou. The space between the bayou and the houses was occupied by a swamp through which a canal had been cut to afford access to the high ground or bluff, on which the dwellings stood. M. Rochelle, a few years previously, had the trees, covering the swamp, in front of the houses, cut down, in order to gain a better view of the bayou, and obtain a freer circulation of air. As I passed up the canal or ditch, through the swamp, I perceived, on each side, the decaying timber lying in the water, which was entirely stagnant. In many places the water was not sufficient to cover the ground. On ascending the bluff and looking around, I ascertained, that besides a swamp of a quarter of a mile in width and three miles in length in front of the plantation, there was also an immense swamp in the rear, running back to a *prairie tremblant ;* and on the lower side of the plantation was another bayou of stagnant water, and on the upper side a thick forest and cane break. I thought, at the time, that, if the country contained a sickly spot, this was the one.

The Jussieua Grandiflora, however, grew in profusion in all the waters around, whether these waters were in the bayous, or in the swamps ; and whether they had communication with the bayous or were isolated stagnant pools, they were found to be pure and transparent—free from any offensive taste or smell.

M. Rochelle had fifty-three negroes living on this plantation and his white family consisted of about a dozen persons. He informed me that himself, and all the family, white and black, except the younger children, were natives of Rockingham county, Virginia—that he had resided on his plantation with this large family, nine years, during which time no

deaths had occurred, either among the whites or blacks, young or old—that there had been not more than three or four cases of sickness during any year—that these cases were slight and required little or no medical treatment. His neighbors confirmed this statement, and gave nearly as good an account of themselves. The negroes with whom I met, all looked healthy, happy and contented.

The next evening I put up at a house containing about twenty white persons and no negroes. The patriarch of the family was a Kentuckian by birth. He married a Spanish woman, who, dying, had left him a widower with several children. He afterwards married a French widow, with two or three children, whose former husband was a German. The children by the last marriage as well as by the former marriages, together with a few aunts and relatives, swelled the whole family to about twenty. No less than four languages, English, Spanish, German and French, were spoken by the same family, living under the same roof.

I got two of the sons of the old gentleman by his first wife to take me in a canoe up Bayou Black. They were with me several days, and, as they spoke four languages, were of great use in enabling me to collect information respecting this country inhabited by the floating plant and polyglot people.

If I have been misinformed in reference to the health of this section of country, then also are great numbers, in and about this city, deceived in this respect equally with myself. Numbers of people in and about Natchez have visited this region of country; some have removed to it; a few have been living in it for years. All, with whom I have conversed, concur in the same opinion of its healthfulness. It is true, they differ in regard to the *causes* of its singular salubrity; some ascribing it to the proximity of the sea and the sea breezes; others to

the large open prairies on its western border, in and near that part of it called Attakapas, without recollecting that the inhabitants of Terrebonne and Lafourche, who reside very remotely from these large prairies and secluded from them by intervening forests, are equally if not more healthy than those living near them.

Having ascertained the facts of the purity of the stagnant waters, and the health of the inhabitants in this section of country, I examined the subject attentively on the principles of that new and interesting science, called, by the French, Political Arithmetic.

The Parishes on and below the thirtieth degree of north latitude are the following: Ascension, Parish of Orleans, (not the city of New Orleans,) St. John the Baptist, St. James, St. Martins on the line of 30°; and the following below 30° and south of New Orleans, viz: St. Mary, La Fayette, St. Charles, St. Bernard, Jefferson, Plaquemine, Assumption, Lafourche, and Terrebonne. These Parishes in 1830, not including any part of the city and suburbs of New Orleans, contained a total population of 83,943—27,778 white persons and 46,165 negroes. They contained thirty-eight persons over one hundred years of age, whereas the whole of the New England States, with a population 1,954,704, including upwards of 20,000 negroes, only contained thirty-five persons over one hundred years of age. France with thirty-six millions of inhabitants only contained five hundred and thirty-seven persons over one hundred years of age. If France were as favorable to longevity, as the land of the Jussieua Grandiflora, it ought to contain upwards of sixteen thousand individuals over one hundred years of age.

By instituting a comparison on the data afforded by the census of 1830, it will be found that, in all that part of Loui-

siana where the Jussieua Grandiflora grows, for every hundred white males and females between twenty and thirty years of age, there are upwards of one hundred children under five years of age; whereas, in that part beyond the region of the Jussieua Grandiflora, the number of children to every hundred white males and females, between twenty and thirty years of age, is only *eighty-six*, being more than fourteen per cent. less than in that part of Louisiana inhabited by the floating plant.

Again, for every one hundred males and females in those parishes of Louisiana inhabited by the floating plant, there are seventy-nine children between five and ten years of age; but beyond the region of the floating plant, the number is only fifty-seven.

The proportional number in Upper Louisiana of those between ten and fifteen, and fifteen and twenty, is from eight to ten per cent. less than in that part of Louisiana inhabited by the Jussieua Grandiflora.

Taking the number of persons between twenty and thirty years of age in both districts as the standard of comparison, the number of citizens between thirty and forty years of age is eight per cent. greater in the district of the floating plant than in the district north of the region inhabited by it.

The number of white persons between forty and fifty, between fifty and sixty, and between sixty and seventy is from three to four per cent. greater in that part of Louisiana inhabited by the Jussieua than in the district lying north of it. The surest proof of the health of any country is the great number of children and old persons which it contains. Lower Louisiana contains from eight to fourteen per cent more children in proportion to its population than Upper Louisiana, and from three to fourteen per cent. more old persons.

Again, for every one thousand white inhabitants between

fifteen and fifty years of age, in all that part of Louisiana in which the floating plant is found, there are one hundred and thirty-two individuals between fifty and one hundred years of age—whereas, in all that part of Louisiana north of the region of the aquatic plant, the number of persons between fifty and one hundred years of age, is only one hundred and eighteen to the thousand adults.

In the famous city of Boston, the number of persons between fifty and one hundred years of age is only one hundred and twenty to the thousand, twelve per cent. less than in the swamps and bayous of the most southern portion of Louisiana.

The city of New York contains only one hundred and ten to the thousand. But it is proper to observe that, according to the facts disclosed by the science of Political Arithmetic, all high and dry country situations, whether in the north or the south, remote from swamps, marshes and stagnant waters, are more favorable to human life between fifty and ninety years of age than low and damp situations; but after ninety years of age, the low and damp situations are the most friendly to human existence. Although the number of persons between fifty and ninety in Louisiana is less in proportion to the population than the number of persons between fifty and ninety in the northern States or in France, yet the number beyond ninety years of age in Louisiana is much greater than in any of the northern States or in France. Thus, according to the census of 1830, the city of New Orleans, with less than 70,000 inhabitants, contained more persons over one hundred years of age than New York and Philadelphia both together.

It is also a mistaken idea to suppose that dry and elevated situations in the south, remote from stagnant water, are less

healthy, or less favorable to longevity than similar situations in the north. According to the facts afforded by Political Arithmetic, the lives of the people of a number of counties in Mississippi ought to be insured at a cheaper rate than the lives of the people of Kentucky, Ohio, Pennsylvania or New York. In Kentucky, for every one thousand inhabitants between fifteen and fifty years of age, there are one hundred and sixty-eight individuals between fifty and one hundred. In Ohio, one hundred and forty-eight. In Pennsylvania, one hundred and seventy-one. In New York State, one hundred and sixty-seven. In Lowndes county, Mississippi, among the white male inhabitants, for every thousand persons between fifteen and fifty, there are one hundred and ninety-one between fifty and one hundred; in Monroe county, Mississippi, one hundred and fifty-five; in Covington, one hundred and sixty-nine; in Lawrence, one hundred and seventy-six; in Pike, one hundred and sixty-eight; in Perry, one hundred and seventy-one; in Copiah, one hundred and sixty-five; in Amitie, one hundred and seventy-five; in Marion, two hundred; in Green, two hundred and twenty-five; in Jackson county, two hundred and thirty-two, and in Hancock, two hundred and forty-one.

The three last named counties contain more old people to the thousand than the State of Maine which contains two hundred and twenty one.

Hancock county exceeds Massachusetts by three in the thousand.

Although the probabilities of human life between fifty and ninety years of age are considerably less in the low swampy district of Louisiana, inhabited by the Jussieua Grandiflora, than in the dry and elevated counties of Mississippi, and less than in the high, dry and mountainous regions of Kentucky,

Pennsylvania and Vermont, yet it is fourteen in the thousand more favorable to longevity than similar low and marshy districts north of the region of the aquatic plant. It is even eighteen in the thousand more favorable to longevity than the low swampy State of Illinois.

But the hygienic properties of the Jussieua Grandiflora are less evident in promoting longevity, than in exempting man from that fatal tribe of malarious or miasmatic diseases which cut off so many of the southern people in the prime of life. The number of persons who die in the northern States, in the prime of life, by consumption, typhus fever and inflammatory complaints, is about equal, or even exceeds, the number who die in the south of malarious diseases. But the region of country, in which the Jussieua Grandiflora flourishes, is from its mild climate comparatively exempt from consumption, typhus and inflammatory affections; and by reason of the anti-malarious properties of the plant, it is singularly exempted from all that tribe of diseases which are produced by marsh miasmata or by the unwholesome air of swamps, called malaria. The plant, it would seem, converts into its own nutriment those very impurities of stagnant water, which in other situations load the atmosphere, at certain seasons of the year, with noxious effluvia.

I saw the identical plant, the Jussieua Grandiflora, which is so abundant in Lower Louisiana, cultivated as a curiosity in the botanical garden belonging to the University of Oxford. It had a large basin of water, several yards in diameter, appropriated exclusively to it. The water of the basin in which it floated was pure and sweet, while the water of a number of other basins, appropriated to other aquatic plants, was far from being as much so. The English botanist, who showed it to me, could not account satisfactorily for the circumstance.

He assured me that all the basins were filled at the same time. But the true explanation is, that the most of the other plants draw more or less nourishment from the earth and the atmosphere, and do not, as the Jussieua Grandiflora, derive the whole of their nourishment from the water. All aquatic plants, no doubt, serve to purify the water in which they grow in proportion to the amount of nourishment they draw from it.

I have already shown that the number of persons between thirty and forty years of age, in that part of Louisiana where the aquatic plant grows, is eight per cent. greater than the proportionate number of persons between thirty and forty in that section of Louisiana which lies north of the district inhabited by the plant—although the northern district includes a large portion of high and healthy piny woods.

Kentucky, in 1830, contained 87,852 white persons between twenty and thirty years of age, and only 49,750 between thirty and forty, and 31,442 between forty and fifty. The proportions, therefore, are as follows: For every hundred individuals in Kentucky, between twenty and thirty years of age, there are only fifty-six between thirty and forty. In the district of Louisiana inhabited by the aquatic plant, the proportional number is sixty-four: eight per cent. more persons die, therefore, in Kentucky, in the prime of life, than in the swamps of Lower Louisiana; but between forty and fifty, Kentucky has the advantage of Louisiana one per cent. The probabilities therefore of human life between thirty and fifty years of age, are seven per cent. better in the swamps of Lower Louisiana, than in the healthy State of Kentucky.

The State of Pennsylvania, in 1830, contained 237,257 white persons, between twenty and thirty years of age. If Pennsylvania were as favorable to human life, between thirty

and forty years of age, as that part of Louisiana, in which the anti-malarious plant is indigenous, it ought to have contained 153,242 persons between thirty and forty. But the census shows that it contained only 144,776. Therefore 8466 persons, under forty, would have lived over forty, if they had resided in Lower Louisiana, instead of the mountains of Pennsylvania. But after forty, Pennsylvania has the advantage; but it is so small, as in twenty years, including the period from thirty to fifty, that the probabilities of human life are only one two hundred and thirty-seventh part greater in Pennsylvania than in Louisiana. But after fifty, the probabilities of the duration of life are considerably more in Pennsylvania until ninety, when it again turns decidedly in favor of Louisiana.

Ohio, in 1830, contained 156,864 inhabitants between twenty and thirty, and only 93,240 between thirty and forty; whereas, if Ohio were as favorable to human life, in its prime, as Lower Louisiana, it should have contained 101,424; making a difference in favor of the region of country inhabited by the Jussieua Grandiflora, of 8,184 persons. Even in twenty years, from thirty to fifty, the probability of human life would, in the same population, be 3379 better in Louisiana, than in Ohio. But after fifty, the probabilities would run in favor of Ohio until ninety, when it would turn in favor of Louisiana.

In regard to the health of children in Lower Louisiana, the following facts derived from the results afforded by political arithmetic, should be conclusive: For every thousand white females between fifteen and fifty in Lower Louisiana, there are 2357 children under fifteen years of age. If the country was not favorable to infantile existence, the number would not be so great, by one half.

In Pennsylvania, the number of children under fifteen years, to every thousand females, between fifteen and fifty, is only

2961. In Kentucky, 2370; in Ohio, 2275; in E. Tennessee, 1354; in the Northern District of New York, 1967; in Virginia, 1972; in Mississippi, 2540. But in the paludal, or swampy distrtcts of Mississippi, the number of children is about three hundred to the thousand less than in the district of Louisiana inhabited by the Jussieua Grandiflora.

In the United States, taken as a whole, the number of persons between twenty and thirty exceeds, in a small degree, the number of children under five years of age, (only sixteen in nearly two millions.) In Lower Louisiana, the children under five years, exceed the adults between twenty and thirty, forty-eight; in Upper Louisiana, the adults between twenty and thirty, exceed the children under five years, no less than 1208, giving Lower Louisiana about eight children, where Louisiana has seven. In the United States, the adults between thirty and fifty years of age, are nearly equal to the adults between twenty and thirty. The same thing occurs in that portion of Louisiana where the aquatic plant is found. There the adults between thirty and fifty are only forty-nine less than the adults between twenty and thirty. Whereas in Upper Louisiana, the adults between thirty and fifty fall short of the adults between twenty and thirty, no less than 1097.—Thus it appears, from a variety of facts, that a low, alluvial region, subject to annual inundation, and abounding in stagnant pools, lakes, lagoons and impassable swamps, in the most southern portion of the United States, is rendered not only habitable, but healthy, by an aquatic plant, that consumes or feeds upon the impurities of the water in which it grows, and thereby prevents the generation of miasmata, or those noxious vapors so unfriendly to human existence. It would seem, therefore, that the experiment of rendering other low and inundated districts of country healthy, by disseminating the Jus-

sieua Grandiflora upon their stagnant waters, would be well worthy a trial. It would certainly be a great achievement of experimental philosophy, if she could extend the empire of her power into those low, swampy and insalubrious districts of the South, and convert them into healthy abodes; even to make mill-ponds healthy would be no small triumph.

True philosophy is not, as is too often supposed, an inactive, inanimate, inefficient thing, incapable of doing good, or of accomplishing useful purposes; but it is an animated, restless, self-moving power, perpetually in action, constantly striving to make inroads upon the mysteries of nature, in order to drag something to light which may subserve the purposes of utility to man. That proud Isle, on whose possessions the sun never goes down, and whose name is a terror to every land but our own, was formerly nothing but an unhealthy, insignificant spot of earth, noted for nothing but the crab-apple, and almost inaccessible by reason of stormy seas. Philosophy, however, by uniting itself, as an active and directive power, with the various artists, agriculturists and manufacturers, has made England what it now is. But there, as in all other countries, except our own, the happiness and comfort of the many have been sacrificed to the pride and luxury of the few. This, however, is not the fault of philosophy, but the fault of the people in not applying or calling in the aid of the experimental, or Baconian philosophy to direct the affairs of State.

Our happy form of government rests on the firm basis of the Baconian or experimental philosophy. Our individual distinctions in society are all such as nature makes. The broad, artificial distinctions which divide the people of Europe, are unknown amongst us. Our government is founded upon *natural*, not *artificial* distinctions in society. Our chief executive officer can never, in the nature of our philosophy, be a

child in its cradle or a girl in her teens. The same experimental philosophy, which we have found to succeed so admirably in our government, will also succeed equally well in our fields; and cause two blades of grass to grow where only one grew before. It is not too much to hope from it, that it may yet be made to convert sickly districts into healthy ones. There are many ways of accomplishing this object, in a greater or less degree, by embankments, draining, and a proper system of cultivation. I only propose the dissemination of the Jussieua Grandiflora, as a means of preserving health in those districts not susceptible of being drained or cultivated. Mississippi already owes half her wealth and influence to the successful application of the experimental philosophy to a single plant. It has been but a few years ago, when the cultivators of the cotton plant considered one hundred pounds a good day's work, for any one laborer, and moreover thought themselves fortunate, if half the bowls or pods on the plant, did not annually perish with the disease called the rot.

At length the experimental philosophy, fortunately came to the aid of the planter. It procured some seed from another variety, or, as I believe, a different species of the cotton plant, as found in the table lands of Mexico. The pods of the Mexican species, were not affected by the rot, as the capsules were thicker, and less tender than the species at that time cultivated in Mississippi. But the attachment to the dissepiment and pillar of the capsule was so weak, that as soon as the capsules expanded, the cotton wool dropped out of the pods, and fell to the ground. The experiment having in a measure failed, a second was instituted, by planting the seed of both species together in the same drill. A new species of the cotton plant was thereby produced, which did not rot, did not drop out of the bowls or pods, yet the bowls expanded freely, making it

more than twice as easy to pick or gather, as the kind formerly cultivated. But in a very few years it was found that the new made species of cotton, called Mexican, was fast degenerating into the old black seed kind. A third experiment was instituted, which consisted in separating the white, or Mexican seed from the black seed, and planting the white.—This was found to re-instate the new species which possessed the advantages of both the parent species without their disadvantages.

Thus, in a few years the experimental or Baconian philosophy, has enabled the planter to make twice the quantity of cotton with the same labor, and Mississippi is indebted to it for half her wealth and power.

Our government, as I said, is founded upon the same philosophy—our agriculture is daily improving under its influence—by its aid our manufacturing establishments are already beginning to rival those of Europe—it has increased the velocity, beauty and strength of our shipping beyond all other nations in the world. It has diffused science into mechanism, shortened the road to mechanical knowledge, and elevated the American mechanic to the high station of the intelligent, the good, and the useful. It has discovered better systems of education, improved those that formerly existed, and established new ones. Sunday Schools, Bible and Tract Societies and Missionary establishments are nothing more than so many philosophical experiments, having for their object the diffusion of Christianity—or in other words, experimental philosophy trying to open the adamantine doors of ignorance and superstition to let in light. The ecclesiastical page of future times will tell the result. If this experimental philosophy, which has already done so much for mankind, and which is daily doing more, be invoked, it will not be expecting too much

from it to hope, that it will ultimately point out the means, by which unhealthy districts of country may be rendered salubrious. Whether the dissemination of the Jussieua Grandiflora be one of them, time and experience can alone determine.

ART. IV.—*A Case of Purpura Hemorrhagica successfully treated.* By WM. W. SEARCY, M. D., of Nashville, Tennessee. Reported to the Medical Society, of Tennessee, at its 11th annual meeting.

ON the 18th of August last, I was requested to visit a young girl, aged 12 years, who, I was informed, had been laboring under an attack of fever of nine days duration, but had been convalescing. The situation of the girl when I first saw her was as follows:—she was very pale, and could not be raised for fainting; her surface was unnaturally cool; great restlessness; some thirst and headache; tongue pale and flabby; pulse barely perceptible and extremely frequent; *much tenderness* of epigastrium to pressure; her bowels constipated. There was a constant oozing of blood from the nares and throat, which had existed for two days and nights uninterruptedly, which caused extreme exhaustion. There was discovered about the face a few red and blue blotches, and a further examination revealed a numerous eruption of a similar kind on the body, limbs, insides of the lips and cheeks. They varied from the size of a pin head to a four-penny piece.

The girl has always been rather delicate, of a nervous, sanguine temperament. She has never had a similar eruption; bleeds frequently from the nose when in health, but never

before to an alarming or exhausting extent. Her flesh when wounded is not disposed to bleed more profusely than similar wounds in other persons; none of her relations have been known to have a similar eruption or to be subject to profuse hemorrhages. The scrofulous diathesis is not known in the family.

Four grains of acetate of lead were ordered to be administered every half hour until the hemorrhage should cease; also a strong solution of the same (1 drachm to a pint of water,) to be repeatedly injected up the nares. A blister was applied to the nape of the neck and one to the calf of each leg. Diet, water gruel, chicken broth, or rice water; drink, lemonade.

The next morning, 19th, I was informed that the hemorrhage had ceased after the seventh dose of lead, and had not again returned; the blisters had drawn well. Her extremities and surface at present are much warmer; pulse not so feeble, but still very frequent; the patient is very restless, has slept but little for two or three nights; complains very much of her blisters, has but little thirst and no appetite; *great tenderness* of the epigastrium to pressure; and bowels constipated. The last passage from her bowels was dark and liquid. Her tongue is pale and flabby; there is a pretty numerous new crop of petechiæ; those of yesterday which were small and red, have enlarged and are of a bluish cast. A mercurial purge of 12 grains of calomel was ordered, and every two hours 6 drops of elixir vitriol and 1 grain of sulph. quinine. Diet and drink continued.

20th. Patient's condition not materially altered since yesterday; calomel has operated but once, the evacuation copious, dark, and liquid. She had slight fever yesterday evening. There is still much tenderness of epigastrium; pulse and

tongue vary but little. Ordered castor oil, and a continuation of vitriol and quinine, and the same diet and drink.

21st. After taking oil yesterday, patient's bowels were freely purged; discharges more consistent and yellow; rested very well and slept soundly all night; her appearance and symptoms every way much more favorable; she feels much stronger and desires to eat; very few fresh petechiæ, and old ones fading considerably; tenderness of epigastrium much less. Ordered a continuance of quinine and vitriol, and diet a little more nourishing.

22d. This morning patient says she does not feel so well as on yesterday; indulged rather freely in eating, and had some fever in the evening; rested badly last night; eruption fading away and no new specks discovered; pulse frequent but feeble; headache; bowels have not been moved since yesterday morning; epigastrium *tender* again to pressure; there has been no return of the hemorrhage. Ordered castor oil; continue quinine and vitriol, and restrict her diet exclusively to water gruel, chicken broth, or rice water, and use acid drinks. Visited her this evening, found her with some fever and headache. Oil which she took this morning had operated but once; prescribed an additional dose of oil; discontinue quinine and vitriol and use citrated kali during pyrexia.

23d. Patient expresses herself much better this morning; had three copious discharges early last evening, consistent and yellow; tenderness of epigastrium very much diminished; fever left her early in the evening, has rested well all night; free from headache; feels much stronger and desires to eat. Temperature of the surface and extremities more natural; tongue looks well; pulse fuller, soft and not so frequent. The eruption is now barely visible. Ordered castor oil and resume quinine and vitriol.

24th. Patient convalescing—omit the tonic and take oil enough to keep the bowels moderately soluble.

25th and 26th. Patient still convalescing and continued from this out to mend rapidly. Up to this date, 4th May, 1840, has had no return of the disease and her health is excellent.

Nashville, May, 4, 1840.

ART. V.—*A Case of Concussion of the Brain.* By J. L. BURTT, M. D., of Cincinnati, Ohio.

MAY 27th, 1840, the mother being absent, the child which forms the subject of the present paper, aged three years, was left in charge of some of the rest of the family, and was suffered to climb over the sill of a window in the second story of a large dwelling house. From thence, a height of perhaps 16 feet, it fell upon the brick pavement beneath. Falling upon the vertex of the head, when taken up, and for an hour afterwards, the cranial bones were so depressed as to present an almost level surface. I might safely say, that its head was as flat as a table.

The *os frontis* projected forward at least two inches over the eye brows, in its natural position. The child was examined by Drs. Mussey and Fore. It presented all the symptoms of violent concussion of the brain for about an hour.

Its head was shaved, but on examination no symptom of fracture was found as had been expected. After this period, a spasmodic action of the facial muscles ensued, and shortly after it vomited several times, which seemed to relieve it and in a great degree to overcome the remaining stupor.

Cold applications to the head, and enemata, which were speedily followed by copious evacuations, formed the treatment at this period. From the time that its bowels acted it seemed perfectly sensible, knowing its mother and asking for water. In the mean time, the cranium had made considerable advances towards its proper elevation. I sat up with it during the night—it rested well; the reaction was not high, so that bleeding was not necessary; and the cranial bones rapidly assumed their natural position.

From this time until the 30th, the convalescence was rapid, the only treatment being cold applications to the head, and the administration of gentle cathartics.

31st. Patient able to walk, with a little assistance.

June 2d. To all appearance perfectly well.

Cincinnati, June, 1840.

REVIEWS.

ART. VI.—*Researches Anatomical and Physiological.* By JOHN DAVY, M. D. F. R. S. Assistant Inspector of Army Hospitals. In two volumes. London; Smith, Elder & Co., 65 Cornhill, 1839. pp. 935 8vo.

FROM the distinguished connexions, as well as the high standing of the author of this work (being as he is a brother of the late Sir Humphrey Davy,) and from the great length of time he has been engaged in the collection of materials for it, and in its composition, (some of it having been written nearly thirty years ago)—from these and other considerations, especially the wide and varied range of observation and research which it embraces, it ought to be hailed as a production of ample promise. And such we believe is the case in relation to it. Nor do we say that it will altogether fail to satisfy public expectation. Yet, that we ourselves are not a little disappointed in our hopes and anticipations respecting it, is not to be either denied or disguised. That, as a whole, it is much more voluminous and labored, than well conceived, judicious, and useful, we feel ourselves authorized, and deem it our duty as reviewers to assert. Yet are many sections of it characterised by a full sufficiency of interest and merit, to invite and reward an attentive perusal of them. The *whole host* of experiments it contains, though perhaps unnecessarily,

not to say *exceptionably* numerous, we are not prepared to pronounce either inaccurate or unprofitable. Far otherwise. But the usefulness of *many* of them whether in a scientific or a practical point of view, (were it correct in us to make a distinction between *those qualities*,) we are unable to discover.

The work, as it now appears, does not possess the freshness of originality, the greater portion of it having been previously published at the periods when it was written, either as articles in the Transactions of the Royal Society, or in some of the minor Journals and Periodicals of the time. And, for making up those articles into volumes, the author assigns the following reasons:

"I have recourse to re-publication, partly for the purpose of bringing together papers which are scattered in the transactions of Societies, and in Journals not easy of access; and partly with a view to alterations, corrections, and additions, which either after-reading, or further research has enabled me to make; and lastly, with the hope that the collection thus formed may prove of use, both to the medical student, and the medical inquirer."

The work consists of nearly fifty different papers, each of them treating of a subject more or less distinct from all the others. It need hardly be added, therefore, that to give the slightest notice of an entire collection, so extensive and multifarious, in a single review of the customary length, is altogether impossible. Hence we shall select, as the theme of our analysis and remarks, a single article entitled,

"*An account of some Experiments and Observations on the Torpedo.*"

And even of this our consideration must be limited; and to render it as free as possible from mistake and misrepresen-

tation, we shall allow our author, in most instances, to speak for himself. In the following clause he states succinctly the defective condition of the knowledge possessed by naturalists and physiologists, respecting the phenomena exhibited by the torpedo, previously to the commencement of his own investigation of the subject, and makes known the points designed to be elucidated, by the experiments he instituted, in the course of his researches.

"I may premise that when I entered on the enquiry, it had not been ascertained, that the electricity of the torpedo, considering its peculiar influence to be electrical, had either the power of acting chemico-electrically, in separating the elements of compound bodies; or magnetically, either in affecting the needle in the multiplier, or in imparting magnetism to iron; or lastly of generating or producing heat; points to which my experiments were particularly directed, and with positive and successful results."

Before proceeding farther in our examination, we shall refer to a circumstance which, in our estimation, increases not a little the interest attached to the paper we are considering. It was written by its author at the request of his dying brother, Sir Humphrey Davy, president at the time of the Royal Society. That request was conveyed in the following letter, which beautifully and affectingly discloses the expiring philosopher's "ruling passion strong in death."

Rome, Feb. 25th, 1829.

"My dear John,

"If I had not had this attack, it was my intention to have gone to Fumicina, or Civita Vecchia, to make some experiments on the torpedo. I hope you will take up this subject, which, both as a comparative anatomist and chemist, you are very capable to elucidate. You will see my paper on the torpedo, in the manuscript book which I have left in Mr. To-

bin's hands.* It was my wish to have exposed an unmagnetised needle to the continued shocks of a torpedo in a metallic spiral, making the metallic communication perfect with both electrical organs. There is in my little box, an apparatus which I hope you will use. Large living torpedos may be procured at Fumicina, or Civita Vecchia. The shock from a very small jar will make a needle magnetic, provided it is entirely passed through the metallic conductors; but I did not find this effect when there was any interruption by water. There are many things worth attending to in the two kinds of torpedinal fishes found here—the tremula and occhiatella. Pray do not neglect this subject, which I leave to you as another legacy. God bless you, my dear brother, your affectionate Friend,

"H. Davy."

The commencement of the writer's investigation of this curious and well selected subject, we shall communicate to our readers in his own words.

"*Experiments on the Electricity of the Torpedo.*

"From the preceding letter, it appears how desirous my brother was of trying the effect of the shock of the torpedo on a needle placed in a spiral wire. The result, he was of opinion, would be conclusive as to the nature of its electricity,—that is, whether it should be considered distinct, and of a peculiar kind, or merely a variety of common electricity, or at least analogous to kinds already known.

"Anxious to make this trial, I had an apparatus in readiness, which, with common electricity, I had found to answer extremely well. It consisted of a fine copper spiral wire, (the spring of a bracer) about one inch and a half long, and one-tenth of an inch in diameter, containing about one hundred and eighty convolutions, and weighing about four grains and a half. This was inserted into a glass tube, just large enough to receive it, and secured by corks.† The wire passed through the cork at each end, and was connected with

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* This, his last paper and communication to the Royal Society, was published in the Philosophical Transactions, for 1829; it was written in the preceding October; its results were entirely negative.

† The apparatus referred to by my brother, in his letter, did not answer so well: the spiral was of silver wire wound round a glass tube.

strong wires with glass handles for the purpose of contact. The wire intended to be applied to the under surface of the fish was one-twenty-fifth of an inch in diameter; that intended for the upper surface was stiffer, being one-fourteenth of an inch in diameter, and its greater strength was useful, as it was necessary to employ it occasionally with some force to rouse the fish when averse to give a shock. The first trial I had an opportunity of making with this apparatus, was successful. It was on the 3rd of Sept. 1831, at eleven o'clock at night.* The fish used was a small one, about six inches long; it had been just caught in a hand-net, and immediately put into salt water, and was very active. A needle perfectly free from magnetism, was introduced into the spiral, and there confined by the corks, and the spiral was carefully connected with the insulated wires for contact. The fish for the experiment was placed in a glass basin, and was barely covered with water. One wire was applied to the under surface of the electrical organ, and the other to its upper surface, and contacts were made at intervals during about five minutes, when the fish seemed much exhausted by its exertions. On taking the needle out, and bringing it near some fine iron filings, it was found to be magnetic, and powerfully attracted them. This experiment I have repeated many times with fishes of different sizes, some larger and smaller, and with the same result whenever the fish has been active, and the contacts similarly made.

"The next trial instituted on the electricity of the torpedo was on the multiplier; it was one which belonged to my brother, the needle was poised on a pivot, and was not very sensible. The precaution was taken to insulate the instrument well, by smearing with sealing wax the feet of the stand supporting the coil. The same wires for contact were used in this as in the former experiments, and the junctions were carefully made. Applying one wire to the under surface, and the other to the upper surface, using the fish first mentioned, and after an interval of only two hours, I succeeded in obtaining decisive results; the first shock had a powerful effect, the needle made half a revolution: and other trials were in

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* It may appear singular that this experiment was not made before. The explanation is easily made.—On my return from Rome to Malta, in June, 1829, I was assured that the torpedo is not known in the latter place. It was not until the summer of 1831 that I found out that I had been misinformed, and that, with a little trouble, the fish may be procured alive at all seasons of the year.

accordance. The needle, by active fishes, was generally thrown into violent motion, occasionally describing nearly a circle, and even by the feeblest it was distinctly affected. I have met with no instance of a fish which had the power of magnetising a needle in the spiral wire, failing to move the needle in the multiplier; but I have met with more than one example of a fish, whose electricity was equal to the latter effect, and not to the former."

Again says our author:

"I thought it possible, that by insulating the torpedo on a plate of dry glass, and wiping its circumference dry, and smearing it with oil, that the galvanometer might be affected. But in this, too, I have been disappointed; not even in flame, when the interruption of the circle has been only just visible, has any effect on the instrument been produced.*

"Mr. Farady, in the Third Series of his Experimental Researches on Electricity, states that he has little or no doubt, were Harris's electrometer applied to the torpedo, the evolution of heat would be observed.† I have made very many experiments on this subject, completely establishing Mr. Farady's anticipation. The instrument employed was similar to that described by Mr. Harris in the Philosophical Transactions for 1827, differing merely in the wire passed through the small globe being exceedingly fine, and of platina, formed after Dr. Wollaston's method;‡ in having a small stop-cock for regulating the height of the spirit in the stem; and in using as small a quantity of spirit as possible. The small

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* Since the above remarks were first made, M. Matteucci has obtained sparks from the torpedo, and Mr. Farady from the Gymnotus,—not indeed directly, as Mr. Walsh was supposed to have done, but by means of a "magneto-electric coil," the object of which, it has been hypothetically said, is to prevent the electrical principles from neutralizing themselves directly through the conducting matter adjoining; and to force them to re-unite at a distance, by traversing the thin stratum of air in which the spark was taken. Bibliothèque Universelle de Genève, June, 1836, p. 387. The preceding part of this note was written in December;—I have since learned (now January 26, 1839,) that a spark has been taken direct from the Gymnotus, in the Adelaide Gallery, and that it was accidentally observed in making an experiment, instituted with a different object in view. My authority for this singular occurrence, and one so difficult of explanation, is the very intelligent superintendent, Mr. Bradley.

† Philosophical Transactions, 1813, p. 46.

‡ Philosophical Transactions, 1813, p. 114.

globe or bulb of the thermometer was defended from the variable temperature of the surrounding air, by being included in a wooden box. The delicacy of this instrument was so great, that the spirit in the stem was not only moved by a single spark of the electrical machine, but even very distinctly by the electricity of a single voltaic combination, composed of a copper and zinc wire, the former 1-25th of an inch in diameter, the latter 1-50th, excited by dilute sulphuric acid.

"This instrument was strongly affected by active fish, and even distinctly by weak ones;—indeed, occasionally, when it formed part of a circle in connexion with a galvanometer, I have seen it affected alone, the galvanometer affording no indication of the passage of the electricity. Using two air-thermometers of the same construction, each connected with the wires for contact at one end, and with the galvanometer at the other, the heating effect of the electricity of the torpedo has been apparently diminished, and even more distinctly diminished on adding to the circle another link of very fine platina wire. And at the same time its influence on the galvanometer has been diminished, and its power of imparting permanent magnetism to a needle placed in a spiral, both forming part of the circle. When heat has been applied to the entire link of platina by means of a spirit lamp, so as to render it red hot, the diminution of effect disappeared; and equally so, as well as I could judge from many experiments, whether acting on the thermometer, the galvanometer, or the needle in the spiral."

But we can no farther report Dr. Davy's experiments. Our space does not permit us to go into detail. To become acquainted with those experiments (and they are well worth the trouble of forming an acquaintance with them,) the reader must resort to the article before us, and be content for the present with a narrative of results. Our author continues:

"The tests or indications of electricity of the torpedo, at present known, are six in number; namely, the physiological effect, as the sensation it imparts is sometimes called; the chemical effects, as the precipitation of iodine, the decomposition of water, &c.; its effects on the thermometer, on the galvanometer, and on steel in the spiral. These different tests, in point of delicacy, I am inclined to believe, are in

the order in which they are enumerated. That the two first should be placed highest, and that sensation should have the precedence, the experiments which I have made appear to prove independently of all analogy."

After giving a long and circumstantial anatomical description of the "*electrical organs*" of the torpedo, into which the nervous tissue enters, as the leading element, and subjoining a detailed account of the experiments performed by him, the Doctor communicates, in the form of results and inferences, what he frankly denominates "*theoretical remarks.*" Some of these are as follows, and deserve, in our opinion, the serious consideration of all philosophical naturalists and physiologists.

"The experiments which I have detailed on the electricity of the torpedo, confirm those of Mr. Walsh, made in 1772, shewing its resemblance to common electricity. They moreover show, that like common electricity, and voltaic electricity, it has the power of giving magnetic polarity to iron, and of producing chemical changes. In these its general effects, it does not seem to be essentially peculiar, but as much allied to voltaic electricity, as voltaic electricity is to atmospheric, or atmospheric electricity is to that produced by contact or friction. When we examine more minutely its phenomena or effects, in relation to these different kinds or varieties of electricity, certain points of difference occur.

"Compared with voltaic electricity, its effect on the multiplier is feeble; its power of decomposing water and metallic solutions is inconsiderable; but its power of giving a shock is great, and so also is its power of magnetising iron.

"Compared with common electricity, it has a power of affecting the multiplier, which under ordinary circumstances, common electricity does not exhibit; its chemical effects are more distinct; its power of magnetising iron,* and giving a

* There is this difference when two spirals are used, one connected with the inside of a Leyden jar, and the other with the outside; a needle in each, similarly placed, acquires opposite polarities, the north pole in one being where the south pole is in the other; whilst in the instance of the torpedo they accord, so that a line of needles, passing from one side of the electrical organ to the other, would exhibit a succession of similar poles

shock appear very similar; its power of passing through air is infinitely less; as is also its power of producing heat.

"There are other points of difference; I allude chiefly to the results obtained in the experiments already described, in which the metalic communication was interrupted by a strong solution of salt. In this instance the full power of the fish appeared to pass; water was decomposed, a shock was received, needles were magnetised, and the multiplier was affected. When the same experiment was made on the electrcity excited by the small voltaic combination of a single plate of copper and zinc, each less than an inch in length, and half an inch in breadth, immersed in an acid, neither water was decomposed, nor was the multiplier affected. When it was made on the electricity of the electrical machine, by means of a Leyden jar, all the effects were witnessed, excepting the motion of the multiplier, and the order of succession of poles in the needles magnetised in the spirals. How are these differences to be explained? Do they admit of explanation similar to that advanced by Mr. Cavendish, in his theory of the torpedo, and which has recently been ably advocated by Mr. Farady? or are they more in accordance with the idea which my brother was disposed to adopt, that the electricity of the torpedo and of the other electrical fishes is peculiar,—a power *sui generis?* or, lastly, may we suppose, according to the analogy of the solar ray, that it is not a single power, but a combination of powers?

"The first opinion, which is commonly received, is supported by the majority of facts detailed in the preceding pages. The circumstance principally hostile to it, at least in appearance, is the interruption of the torpedinal electricity by the smallest quantity of air, and its want of the power of attraction and repulsion in the air.

"These peculiarities are seemingly in favour of the second opinion, that the electricity of the torpedo is specific and peculiar. But till the opposite surfaces of the electrical organs can be perfectly insulated, so that no easier mode of communication is afforded than through air, they can hardly be considered of much weight.*

"The third opinion may be indulged in as an hypothesis; as a guide to research it may not be useless. It applies, how-

* In the experiments in which I attempted to insulate the surfaces, by means of oil, the probability is, that I failed, and that a communication continued, if not by the outer surface of the skin, at least by its inner; indeed, the attempts to insulate these organs, in the manner desired, seems to be almost hopeless.

ever, almost as much to other varieties of electricity as to that of the torpedo; all of which, it is possible, may be compounded, or owe their various effects to the union of several powers, or ethereal fluids, and their peculiarities compared one with another, to the predominance in various degrees of these fluids. What is known of the solar ray is not unfavourable to such an opinion; and the history of physical science, in relation to elementary ponderable matter, may give rather encouragement to the notion.

"As regards the mode of production, or the cause of the electricity of the torpedo, it is unavoidably enveloped in great mystery. Like animal heat, and the light emitted by certain animals, and I may add, the secretions of animals generally, it appears to be the result of living action; and connected with a peculiar and unusually complicated organization. All the attempts have been vain, which I have made, directed to obtain electrical excitement in the fish, after it had been deprived of life.

"The observations which I have detailed relating to its anatomical structure, show a complicated adaptation of parts—nerves of unusual magnitude ramifying between apparently insensible columns, saturated with a bad conducting fluid; muscles surrounding these columns, and fitted to compress them; and a system of mucous glands and tubes adjoining, well adapted to be the medium of electrical communication in the surfaces to which they belong.

"When we consider this structure, it is an easy matter to trace rude analogies between it and the pile of Volta, or between its columns, and a battery of Leyden jars, such a battery as was formed by Mr. Cavendish, for imitating the electricity of the torpedo, composed of a large number of jars of very thin glass feebly charged. But these analogies seem to help very little, if at all, towards the solution of the great difficulty: the question remains unanswered, what is the cause or source of the electricity? Here analogy fails entirely; none of the ordinary modes of excitement appear to be at all concerned—neither friction, nor chemical action, or change of temperature, or change of form. Let us consider for a moment a small torpedo in an active state. The smallest which I have employed in my experiments weighed only 410 grains, and contained only 48 grains of solid matter; its electrical organs weighed only 150 grains, and contained only 14 grains of solid matter,—for to this they were reduced by thorough drying. Yet this small mass of matter gave sharp shocks, converted needles into magnets, affected distinctly the multiplier, and acted as a chemical agent, effecting the decomposition of water, &c. *A priori*, how inconceivable that these

effects could be so produced! This fish was about ten days in my possession, during the whole of which time it ate nothing, and its bulk was hardly sensibly altered; and every day it exercised its electrical powers, and to the last they appeared almost as energetic as when it was fresh from the sea. This adds, if possible, to the difficulty of explanation. That this mysterious function is intimately connected with the nerves, and in a manner more striking than all ordinary secretions, is manifest. Beyond this conclusion, all is darkness. We have not, as we have in the doctrine of animal heat, advanced another step—we have not been able to connect it with changes in the electrical organs, as analogous to known sources of electricity, as the changes which take place in the lungs in respiration are to the known sources of heat or combustion. The attainment of this step is a great desideratum, and beyond it, probably, we shall never be able to proceed.

"Without reverting to the conjectures, which in passing I have offered on the subserviency of the electricity of the torpedo in an auxiliary manner to digestion, respiration, and the secretion of mucus, I may remark that its chief use appears to be for purposes of defence—to guard it from its enemies, rather than to enable it, according to vulgar opinion, to destroy its prey, and provide itself with food. Small smelts, which were kept in the same vessel with torpedos, appeared to have no dread of them, and I believe they fed on their mucus. And, in an experiment in which, in a confined space, an active torpedo was excited to give shocks, a smelt which was with it was evidently alarmed, and once or twice exposed to the shock, leapt nearly out of the vessel; but was not injured by the electricity. In confirmation, I may add that the electric power of the young fish, which most requires it for its protection, is, as already observed, proportionally very much greater than that of the old, and can be excited without exhaustion and loss of life much more frequently. After a very few shocks, most of the old fish which I have had have become languid, and have died in a few hours; whilst young ones from three to six inches long have remained active during ten or fifteen days, and have never failed to shew the effects I have described."

Such are the amount and character of the analysis which we find it expedient give, at present, of our author's paper respecting the torpedo. That the subject is not only curious in itself, but highly interesting to all the votaries of physical science, especially to that portion of them who are earnest

inquirers into the laws and habitudes of living matter, will not be denied. And should any one ask, whether it is also practically useful? we would promptly and positively reply in the affirmative—provided it be correctly and thoroughly understood. With whatever point in nature it may be connected, every truth, when fully known, is more or less practically useful, because it increases in some way the power and efficiency of those who possess it—conditioned that it be suitably and judiciously applied. This is as true, as that every dollar a man possesses makes a part of his wealth, and fits him, if properly employed, to act to better and more useful effect. This is but another version of the oft-quoted Baconian maxim that "knowledge is power."

The article before us is a paper on comparative anatomy and physiology. And the usefulness and importance of that study are now universally felt and acknowledged, by every physician who is worthy of his profession. So true is this, that, without some acquaintance with the anatomy and physiology of the inferior animals, the knowledge of human anatomy and physiology is necessarily defective. Were this position doubtful, it might be illustrated and confirmed by instances innumerable.

In the organization of living matter, the nervous tissue, including the brain and spinal cord, are at once the leading and commanding element. Were other considerations therefore wanting, the mere fact, that our author's paper tends to shed light on some of the functions and uses of that tissue, testifies to its importance. In examining that paper then, we have been contributing to the diffusion of *practical* knowledge. In future numbers of the Journal, we shall probably give analyses of some of the Doctor's other papers, especially of one on the "blood," and of another on "animal heat"—both of which we think productions of interest and merit. C. C.

Selections from American and Foreign Journals.

On Creosote as a remedy for Deafness. By O. H. Partridge, M. D.—From numerous observations that I have made in hospital and private practice, I believe that four cases out of five of deafness are caused either from local debility, producing what is generally called "nervous deafness," or from a want of action in the ceruminous glands, or in consequence of the external passage becoming obstructed from wax, mucus, or some foreign substance getting into the ear.

I lay no claims to originality, in the course of treatment I have been in the practice of pursuing, but will merely state facts as they have come under my notice, with the wish, if others have not prescribed the same course of treatment, that they will give it a fair trial. A large number of cases of morbid hearing, and some of long standing, have come under my observation within the last three or four years, and when they were produced by the above mentioned causes, I have generally been successful in curing, or greatly relieving the patients. My directions are as follows: to have the meatus auditorius thoroughly cleansed, I cause to be dropped into the ear night and morning for five or six days, a few drops of olive oil or the oil of almonds, and injecting with a very small syringe, once a day, a solution of the best castile soap in warm water, with a little eau de colonge, in the proportions of six parts of the solution, to one of the cologne. When on examination I find the ear perfectly clean, I then commence with the creosote, which, I think, will act more speedily and efficaciously by stimulating and producing a healthy action in the parts diseased, than any application I have ever yet seen used. I commence with the following formula:

℞.—Creosote, ʒss.
Ol. Amygdalæ, ʒiv.
M.

I am particular to obtain a camel's hair brush, of good size, with long hair, so that the mixture may be well applied, being particular to introduce it far into the ear. After a few days, I usually increase the quantity of creosote as occasion may re-

quire, often using it as strong as one part of creosote to three of the oil of almonds. In pursuing this course, I have never found it produce any unpleasant symptoms, but an agreeable sensation of warmth. The duration of treatment, of course, varies according to circumstances, from three weeks to three months. While using the creosote, I syringe into the ears, every other day, the solution of soap and cologne; and, in the majority of cases use derivations behind the ears; also, occasionally, some general directions are necessary.

Looking over my note book, I find a number of interesting cases, but I will mention only two or three. About a year ago, Mrs. E., of New York, aged about 45 years, on a visit to this city, informed me that about six years previous, she found her hearing gradually failing—knew of no assignable cause. When I saw her, it was with great difficulty I could make her hear, although I spoke very loud, and she used a trumpet. Yet she told me, that when riding over the pavements in a carriage, she could hear as well as any one. This being a case of "paracusis perversæ," and of rare occurrence, I immediately became interested. I accordingly invited the lady to ride with me, and soon found that when we were travelling very quick, and the carriage making much noise, her hearing was very acute; indeed she could hear better than I could. As the lady had submitted to various modes of treatment, without any good resulting, I thought it to be a fair chance to try the creosote, and I was pleased, in a short time, to find it had given tone to the debilitated organs, and improved the hearing rapidly, so that in four months she could hear as well as before the attack.

Last April I was called to see Mrs. H., of New Hampshire, who had come to this city for medical advice. I learned from her that about ten years previous she had been attacked with a disease of the spine, and as she convalesced, her hearing gradually failed, so that at the time I saw her, she used an ear trumpet, and then could only hear when I spoke in a very loud tone. I examined the case, and found the deafness was in consequence of a want of action in the ceruminous glands. I immediately commenced the treatment before mentioned, and in about three weeks, on calling to see her one morning, she met me, "with joy sparkling in her eyes," and informed me that she had that morning heard the ticking of her watch, the first time for six years: in six weeks she attended church and could perfectly understand the clergyman, without the ear trumpet, which was to her a source of infinite satisfaction, as she was a remarkably pious lady.

A gentleman, teacher in one of the public schools, has,

under my directions, been using the creosote for a few weeks, and has quite recovered his hearing: he was about relinquishing his school, when he applied to me, in consequence of his deafness, which had been getting worse for the last three or four years.

I might mention many more cases but these I think sufficient. It is of course not expected that the creosote will be of any benefit in those cases where there is mal-formation, or total obliteration of the Eustachian tube; but these cases are of rare occurrence, compared with those I have mentioned.

Medical Examiner. May 20, 1840.

Abernethy as a Lecturer.—The lecture-room was the grand theatre upon which Mr. Abernethy displayed; there, indeed, he "shone eccentric like a comet's blaze!" and there he would indulge his disposition and propensities to an extent which occasioned the pupils frequently to regard it as an exhibition, and call it an "Abernethy at Home." His mode of entering the lecture-room was often irresistibly droll—his hands buried deep in his breeches-pockets, his body bent slouchingly forward, blowing or whistling, his eyes twinkling beneath their arches, and his lower jaw thrown considerably beneath the upper. Then he would cast himself into a chair, swing one of his legs over an arm of it, and commence his lecture in the most *outre* manner. The abruptness, however, never failed to command silence, and rivet attention.

"'The Count was wounded in the arm—the bullet had sunk into the flesh—it was, however, extracted—and he is now in a fair way of recovery.' That will do very well for a novel, but it won't do for us Gentlemen: for 'Sir Ralph Abercromby received a ball in the thick part of his thigh, and it buried itself deep: and it got among important parts, and it couldn't be felt; but the surgeons, nothing daunted, groped, and groped, and groped,———and Sir Ralph died.'"

Abernethy at the last.—His eccentricity continued during his existence, and towards the last he is reported to have joked upon the œdematous state of his legs produced by the disturbance of the circulation and his difficulty of breathing. Some one inquired of him how he was? to which he replied, "Why, I am better on my legs than ever: you see how much stouter they are?" His hobby retained full possession also to the end of his life. He attributed his disease to the stomach. He said, "it is all stomach; we use our stomach ill when we are young, and it uses us ill when we are old." But it is not

a little singular, that he expressly enjoined that no examination of his body should take place!—*Medico-Chirurgical Review.*

State of the Faculty and of Physic in Algiers.—Physic would seem to be at a low ebb in Algiers. The doctors certainly are so. The following extract from an extract in the Medical Gazette will exhibit the state of things in that country.

"Dr. Bohn first introduced vaccination, and practised it in the family of the deposed Dey himself, who, however, did not give him a princely fee; and, generally speaking, people are here unwilling to give aught to physician or apothecary.

As to the native physicians, the Dey had a kind of protomedicus, who decided medico-legal questions, and created other physicians for a few piasters, without being exactly able to read or write. If a man was able to shave well, if he could compound a plaster, and cure a hurt, he bought the privilege, and prescribed at his own pleasure the whole contents of any of the six Moorish apothecaries' shops; bark with or without theriaca at all times; and in all fevers, opium, sarsaparilla, calomel, pimento, cantharides, and opodeldoch. Ismael Ben Mehmed enjoyed the greatest share of public confidence; he gave Dr. Schonberg an extract from the Arabic work of Ben Huesina, who lived 700 years ago, and a catalogue of his own drugs. His shop, the largest in the town, contained 70 jars, 30 bottles, 20 boxes and several drawers. He obtained medicines from abroad, prepared others himself, and possesses a still and retort. He is afraid of mercury against syphilis, and thinks he can do without it.

Ismael Ben Mehmed is acquainted with remittent and intermittent fevers, and their varieties. His surgical apparatus consisted of a common case of dressing instruments."

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LOUISVILLE, JUNE 30, 1840.

Veratrine, Delphine and Aconitine, *in Neuralgia, Rheumatism*, and *other diseases*. By Samuel A. Cartwright, M. D., of Natchez.

Dr. Cartwright, during his late visit to this city, related to us some striking cases of cure by the external application of these new and most active remedies. At our request, he furnished us with the following communication, which we hope will lead some of our readers to make a trial of the articles, and report to us the results of their experience. Dr. Cartwright has seen acute rheumatism, neuralgia, and tooth-ache effectually and promptly relieved by friction with the ointments; and although he does not profess to have used them extensively in his own practice, his experience strengthens the good opinion he formed of them while witnessing their action in the hospitals of London and Paris. Y.

Dear Sir:—It is near bed-time, and I leave the city in the morning in quest of health. I have not time to write an essay, but as you took so deep an interest in the cases which I mentioned to you that I had seen treated successfully with certain alkaloids, I herewith leave with you a few extracts from my note-book, compiled from clinical observations made in Europe. As I have nothing original to offer in

regard to the use of the new medicines, I think it better to copy my European notes than to enter into any details of my own experience: that experience, as far as it goes, is favorable.

I will, therefore, copy the various formulas in which I have seen these new medicines, in the various hospitals of London and Paris: secondly, enumerate the principal diseases in which they have been used with more or less success; and thirdly, the manner of using them. Although I write in great haste, you may rely on the correctness of the formulas, as I had plenty of leisure while abroad, and was very particular, deliberate and careful in taking my notes.

(1.) *Veratria Ointment.* (Veratrum Sabadilla.)

℞ Veratria ℥ss.
Ol. Oliv. ℥j.
Adip. ppt. ʒj. M. fiat ung

Veratria Embrocation.

℞. Veratria ℥j.
Sp. rect. ℥j. M.

Veratria Pills.

℞. Veratria gr. j.
Extract Hyosciam.
Pulv. glycyrrhiz. aa grs. xij. m. ft. Pil. Xij. Dose, one pill every three hours.

Delphinia Ointment. (Delphinium Staphysagria.)

℞. Delphinia ℥ss.
Ol. oliv. ℥j.
Adip. ppt. ʒj. M. ft. ung.

Delphinia Embrocation.

℞. Delphinia ℈j.
Sp. rect. ʒij. M. ft. embroc.

Delphinia Pills.

As the Veratria pills

Aconitine Ointment. [Aconitum Napellus.]

℞. Aconitina grs. xvj.
Ol. oliv. ℥ss.
Adip. ppt. ʒj. M.

Aconitine Embrocation.

℞. Aconitina grs. viij.
Sp. rect. ʒij. M.

Aconitine Pills.

After the same formula as the veratria and delphinia pills,

The *tincture of aconite* is made by macerating one pound of coarsely powdered aconite root in two pounds of alcohol, seven days, and filtering.

The *delphinia* is made by evaporating to a thin extract a saturated tincture of the seed of the stavesacre, (Delphinium Staphysagria,) and treating it with water acidulated with sulphuric acid, filtering the solution, and precipitating it by ammonia—freeing the precipitate from its water by taking it up by alcohol, and again reducing it to an extract. Then dissolve the extract by acidulated water, and add nitric acid while a precipitate falls. The liquid freed from this precipitate, ammonia is added, and the powder thrown down and dried. It is white.

The extract of *aconite* is made by evaporating the tincture to an extract. The *aconite* pills are made after the same formula as the *aconitine* pills, using twice the quantity of the alcoholic aconite extract in lieu of the aconitine. Twelve aconitine pills contain one grain of aconitine; and twelve aconite pills contain two grains of the extract of aconite. The dose of the former is one twelfth of a grain and of the latter, one-sixth of a grain.

The extract of sabadilla is made by evaporating the tincture of the seeds of the veratrum sabadilla, to the consistence of an extract. The sabadilla pills are made after the formula of the veratria pills, using, however, two grains of the alcoholic extract of sabadilla, in place of one grain of veratria.

The *tincture of stavesacre* is made after the same manner as the tincture of sabadilla, using the powdered seed of the stavesacre, for those of the sabadilla.

The *ioduretted veratrine ointment* is made by substituting half a drachm of the hydriodate of potash for the olive oil, in the preparation of the veratria ointment.

2. The diseases in which some one or more of the foregoing preparations have been found more or less useful, are tic douloureux rheumatism, acute and chronic, croup, angina pectoris, gout, dropsy, spasms of the stomach, tooth-ache, scrofulous swellings, capsular cataracts, iritis, internal opthalmia, amaurosis, and hypertrophy of the membranes in general, and a variety of indurations, thickenings and swellings.

3. *Manner of using the remedies.*—The hand is to be kept moist with any one of the ointments, and rubbed briskly, and with some

little force, over the affected part for ten or fifteen minutes, or more. There is no fear, says Mr. Turnbull, of London, of using the friction too long. He assured us that when used beyond a certain point, the electro-stimulation became unsupportable. This stimulation, he contended, must be fully induced before the sanative effect of the remedy can be expected. What he calls *electro-stimulation*, is a sense of pricking and numbness in the parts subjected to the friction. The ointments do not chafe or irritate the skin. They are applied generally two or three times a day, but in violent cases they are used oftener—say, every three hours, until the electro-stimulation is fully induced, and the disease relieved; then to be gradually discontinued.

The tinctures and embrocations are used pretty much after the same manner with the ointments. The internal use of the medicines did not fall under my observation; but when the electro-stimulation cannot be sufficiently induced by their external use, the pills are advised both by the London and Paris physicians—one, for example, every three hours.

The several preparations above mentioned, have nearly the same effects. The veratrine, delphine and aconitine ointments, embrocations and tinctures, are alternately used, to induce, in the first place, the electro-stimulation, and, in the second, to keep up that stimulation. Some persons are not affected by one, when they would be by another; and the same preparation after being continued for some time, loses its effect in some cases, and hence recourse should be had to another. In croup, the ointment is rubbed over the throat—in neuralgia, over the affected nerve.

One of the surgeons of St. Bartholomew's hospital, in a case of tic douloureux, made an ointment of aconitine, five grains, rubbed with five drachms of cerate. He applied a very small quantity with his finger over the painful nerve, once or twice a day, for six days. It produced numbness over the jaw for twelve or eighteen hours. The aconitine was prepared by Mr. Mordon, of Southampton-row, London, who is said to make the purest article.

In affections of the eyes, the ointment is rubbed over the forehead. The ointments are applied with the hand: a sponge is used in applying the tinctures and embrocations. The medicines are all very costly, and are apt to be adulterated, or improperly prepared. When genuine, they nearly always promptly produce a degree of numbness, and a pricking sensation on the surface to which they are applied. Their application to blistered surfaces, and to the mucous

membranes had been ventured on, but great caution is necessary in this mode, as the experience with them thus applied, is not sufficient to enable us to form rules.

When I was in London, Dr. Turnbull was preparing a work on the above remedies. S. A. C.

Louisville, June 16, 1840.

MEDICAL GRADUATES IN THE UNITED STATES IN 1840.

University of Pennsylvania 163; Transylvania University 60; Jefferson Medical College 57; Medical Institute of Louisville 39; Washington University of Baltimore 19; University of Maryland 14; Medical Department of Pennsylvania College 25; Medical College of South Carolina 65.

It has been remarked truly, that the proportion of Students of Medicine to the population of the United States, is greater than exists in any other country. The population of Prussia is thirteen millions, and in 1835 the number of native students there was 699. In France, the same year, with a population of thirty-three millions there were 2, 672 Students of Medicine, many of whom were foreigners. The number in attendance upon all the Medical Schools in the United States, last winter, we have elsewhere stated at about 2,450. With less than half the population of France, we have an equal number of native Students of Medicine, and the fact, we suppose, may thus be accounted for. 1st. The nature of our political institutions favors the multiplication of professional men. Every man who is able educates his sons, and all offices are open alike to all classes of citizens. The professions of law and medicine are the chief roads to distinction, and being free to all are crowded by candidates. 2d. The amount of disease in the United States is proportionably greater than in any of the countries of Europe. This fact, we presume, is well established, and explains the necessity for a more numerous medical corps. 3d. The sparseness of our population greatly increases the labor of physicians, and makes a larger number necessary. After all, probably more engage in the profession than find it profitable, and hence it is that so large a number, after attending one course of lectures, and more after taking their degrees, abandon it for other pursuits. Y.

CASE OF FORCIBLE REMOVAL OF THE UTERUS AND ITS APPENDAGES, AFTER THE EXPULSION OF THE FŒTUS.

We are indebted to Dr. Drane, of this city, for the following particulars of this most extraordinary case. A woman residing in Oldham county, in this State, was attended by a midwife in her fourth or fifth confinement. Shortly after the birth of the child, the midwife applied herself to the task of removing the placenta, and seizing hold of the os tincæ, which was taken for the placenta, she applied such extractive force as to lacerate the vaginal and ligamentous attachments of the uterus, and bring away the entire organ with the remnants of its ligaments, the Fallopian tubes and ovaria. Very little hemorrhage followed this rude operation, but the patient being alarmingly prostrated by the violence she had suffered, Dr. Ballard, of Westport, was summoned to her assistance. When the Dr. arrived and inquired concerning the delivery, he was informed by the midwife that the patient was cleared, and his attention was directed to a vessel containing the supposed after-birth, as evidence that she had performed her whole duty. He was surprised and alarmed for the safety of his patient to find on examination that it was the uterus and its appendages, which were deposited in the vessel, and on making a section of the uterus, the placenta was found enclosed in its cavity.

Dr. Drane did not see the patient nor is he informed as to the history of the case after the accident; he only knows that, without any very serious consequences, the woman recovered perfectly; that she is at this time alive and in good health, and has borne no children since her mutilation. He had more than one opportunity of examining the parts, preserved by Dr. Ballard and, perhaps, still in his possession, and he assures us unequivocally that they comprise the uterus, containing the placenta, the tubes, ovaria, and portions of the uterine ligaments. We have such confidence in his good faith and competency to decide on such questions, that ocular demonstration could not make us more certain of the fact.

This case, as far as our recollection serves us, is unique in the annals of obstetric medicine. There are well authenticated instances of inversion of the uterus following delivery, wherein the organ has been ignorantly torn away, or has been lost by inflammation and sloughing. In the Medico-Chirurgical Review, vol. xxiv. p. 482, a case of this kind is recorded, which had been considered of

sufficient interest to be published in pamphlet form by Mr. Cooke. As this able periodical may not be in the hands of all our readers, or this case may have been overlooked by them, we shall make no apology for extracting the following summary of it, premising the single remark, that as the placenta was naturally and promptly expelled and the inversion took place twenty-four hours after delivery, apparently in consequence of the woman's rising to urinate, and as when the midwife was summoned, although only a few hours had elapsed, the uterus was detached and removed merely by her lifting it gently with her hands, it is difficult to account for its separation, unless we suppose that the patient herself had inadvertently attempted to tear it away.

"At 4 A. M. of the 22d of May, 1835, a midwife of Coventry, was sent for to a woman in labour. On her arrival, she found the woman, who had already been in labour 48 hours, upon her knees, and insisting upon being delivered in that position, as being the custom of her country (Ireland.)

"With some difficulty she induced her to lie upon the bed, in order, by an examination of the parts, to ascertain how far the labour had advanced. Upon this being done, the Os Tincæ was found dilated to about the size of half-a-crown; the child's head presenting as usual. Every thing went on well, and the woman was delivered at seven o'clock the same evening of a living child. The placenta followed whole in a quarter of an hour, being expelled by a pain.

"No hæmorrhage whatever ensued at the time, although a considerable quantity of blood was lost during the night. The after-pains were trifling, and when the midwife visited her the next morning, she appeared in a very satisfactory state. So well, indeed, did she feel, that notwithstanding the strict injunctions of the midwife to the contrary, she partook plentifully of animal food, immediately after her departure. At 4 A. M. of the 24th the midwife was again hastily summoned. She ascertained the following particulars:—that the woman had risen during the night, and had gone into an adjoining room to make water; that whilst there she had, by her screams alarmed her husband, who called in some of the neighbours, and upon entering the apartment, they found the woman seated on a stool, before the fire, with a vessel of warm water in front of her, and a large substance, which they compared to a child's head and neck, lying between her thighs, supported by her hands. They then sent for the midwife, believing it to be a case of twins, and being greatly alarmed at the quantity of blood she had lost, the hæmorrhage having been profuse. She was now lying on the bed, pale from the loss blood, which had been excessive. On examination, the midwife discovered a hard substance, lying on the bed, loosely connected to the vagina by a shred of membrane only. This substance she immediately recognized as the Uterus, and lifting it

gently removed it without difficulty or effort, and placed it in a wooden bowl. The hæmorrhage then ceased, and the midwife, after a short delay, left the house, taking the uterus to our author's father. He found that it really was an uterus inverted. The only part absent was, the left ovary. Mr. Cooke, senior, visited the woman at 11 A. M. and found her completely exhausted from the hæmorrhage, (which by this time had ceased;) she was extremely restless and agitated, constantly throwing her arms about; pulse scarcely perceptible. Upon enquiry he found she had passed some urine shortly after the loss of the uterus, as also between 9 and 10 the following morning (Saturday.) He was also informed that her bowels had not been relieved for a period of at least 9 days before delivery, except a mass of hardened fæcal matter which was discharged, with the last pain in the labour. The woman did not much complain of any sensation like bearing down, nor of any substance lying in the vagina. She did not appear to suffer much from pain; neither was there much distention of the Abdomen, nor was there then or at any time during the progress of the case any thing amounting to more than a slight degree of tenderness, which, however, was hardly noticed except upon pressure. As there was no protrusion of the pelvic or abdominal viscera, and as there were no urgent symptoms, Mr. C. determined not to incur any risk by instituting an examination per vaginam. He merely enjoined quietude and the horizontal posture, with a light farinaceous diet.

"In the afternoon the pulse rose to 140. The patient passed her urine freely during the night, and next day presented no unfavourable symptoms. In short, no material symptoms ensued, and she perfectly recovered without any surgical, and scarcely any medical treatment."

This case is interesting to the physiologist as well as to the accoucheur, inasmuch as it presented a striking illustration of the close sympathy which exists between the uterus and mammae, which might have been observed, we doubt not, in Dr. Ballard's case.

We are informed that "previous to her confinement, milk was secreted in considerable quantity, but immediately after the loss of the Uterus this secretion, together with that of the Lochia was arrested. Notwithstanding this, and in spite of the remonstrances which were made to her on the subject, she persisted in applying the child to the breast, which induced considerable pain and hardness of the right mamma, attended with a good deal of febrile excitement. These symptoms subsided upon the exciting cause being removed. When her health had been in some degree re-established, she again gave the child the breast, and persevered in doing so during several weeks, until finding that she had no milk she finally desisted."

It is furthermore interesting, because it shows that notwithstand-

ing the preservation of one ovary, all sexual desires and feelings were entirely wanting, although sexual intercourse has repeatedly been had with her husband, no mechanical obstruction whatever existing. This is contrary to what obtains with the other sex, for ridgelings, it is well known, retain their sexual propensities.

H. M.

CASE OF ARTIFICIAL ANUS CURED.

Dr. John Clark, of Morgan co., Ohio, has sent us the notes of a case of strangulated inguinal hernia, terminating in sphacelus and the formation of an artificial anus, which was promptly and effectually cured by using the forceps of Dupuytren. The patient, a female 50 years old, obstinately resisted the proposal to operate for the strangulation, and finally submitted to one still more distressing, for the depth and inflamed state of the walls of the great excavation almost rendered the proper application of the forceps impracticable. One resort to them proved to be sufficient. Their application was productive of a state of deep nervous prostration, which was relieved by stimulants. The Doctor informs us, that before the operation, alimentary matter, bile and fæcal matter, distinct from each other flowed, at different times, through this artificial aperture. D.

PERMANENT CURE OF HERNIA FROM FRACTURE OF THE UPPER EXTREMITY OF THE THIGH BONE.

A distinguished member of the Kentucky bar, when 47 years of age, became affected with scrotal hernia of the right side, for which he was under the necessity of wearing a truss. Judging from the size of the tumor, when the viscera were allowed to descend, the aperture was large. When 57 years old he was overturned in a stage coach, and the upper end of his right thigh bone was fractured. The diagnosis of his medical attendants, was "fracture of the *neck* of the bone," but whether of that part or not, is of no moment, in reference to its effect on the hernia. A great deal of inflammation followed the injury, and when he had so far recovered as to walk about, he found that the hernia did not re-appear. He did not resume his truss, and ten years have since elapsed, without any return of the rupture. In short, the inflammation consequent upon the injury, led to a closure of the hernial aperture. D.

TREATMENT OF DYSMENORRHŒA WITH THE PESSARY.

Our friend, Dr. Mosby, of this city, has been in the habit for many years, of treating dysmenorrhœa, by the introduction, on the approach of the catamenial period, of a pessary, carried high into the vagina. He supposes, that in these cases, the uterus is engorged, and at the same time is drawn or pressed down into the pelvis, where it is compressed and in some degree strangulated. He has seen the pain instantly relieved, by pushing up the organ and sustaining it by a pessary. His practice is to administer a cathartic previously to the attack. D.

FEVERS IN ALABAMA IN THE AUTUMN OF 1839.

In our first number we alluded to the extensive prevalence and mortality of the fevers of the south-west, during the past autumn, and solicited from the physicians of that region communications on the subject. We received from Dr. James C. Harris, of Jefferson, Alabama, a letter from which, although not intended for publication, we make the following extract, presenting his views of the cause and best mode of treating these fevers:

"Since the fall of 1822, when the whole valley of the Alabama was laid under disease, depopulating Cahawba, the then seat of government, so much fever has not been amongst us. Mobile, our emporium, has again been visited with yellow fever, of a most malignant type, killing, as I have been credibly informed, at least one-third of all that were attacked. At other places, the poison being less concentrated, the cases assumed a bilious congestive character, passing readily, under judicious treatment, into the remittent and intermittent forms. The ætiology of this state of things is to be found in the peculiar character of the past seasons—the luxuriance of all species of vegetation, the heat, and the protracted drought. The latter probably prevailed to a greater extent in this country, than was ever known since its early settlement, the dust lying in the roads like a bed of hot ashes, and rising in clouds almost sufficient to suffocate the traveller. The Alabama river, the Coosa, Tallapoosa, and all their tributary streams, were considerably lower than they have been known within the recollection of the oldest inhabitants. A similar combination of circumstances occurred, we are informed by *Hustis*, in his valuable work on the diseases of our State, during the summer and fall of 1822.

In the management of the cases that have occurred under my observation, the lancet, emetics, calomel, the warm bath and blisters, varied to suit the different stages of the epidemic, have been attended almost universally with success. True, I have seen in consultation, a few cases where there appeared to be a continual disposition in the system to sink; and some others where the pain in the bowels was extremely distressing, in which it was exceedingly difficult to procure proper evacuations from the liver. In the first of these conditions, sinapisms and blisters to the extremities and epigastrium, hot brandy toddy, and calomel and quinine combined, in the proportion of 10 grs. of the former to 5 grs. of the latter, repeated at intervals of two hours, and continued until three or four doses had been given, generally effected the ends desired. In the latter cases, the lancet, the warm bath, and calomel, conjoined with tart. emet. or ipecac, and aided by oil and stimulating enemas, have more certainly, and much more safely, in my opinion, accomplished all that could have been anticipated from the more active purgatives, particularly such as the croton oil, gamboge, scammony, &c. The relaxing and powerfully remedial effects of the lancet, under such circumstances, can only be fully appreciated by those who have witnessed its beneficial results; and although I have not ventured on its employment more than twice during the actual chill, still I have repeatedly employed it in cases of deep congestion, where the extremities and surface were cool, and the prostration sudden and apparent, and in every instance, so far as I now recollect, with good effect. So thoroughly am I impressed with the importance of the lancet, in all febrile affections, that I have been led sometimes almost to conclude, that were it practised now, as in the days of *Rush*, the size of all our purgative remedies might be very considerably reduced, and as beneficial results might be obtained from 20 grs. of calomel, combined with a small proportion of tartar emetic or ipecac, as from 50 or 100 grs. of the former article, unaided and uncombined—and that, too, with much less danger of doing permanent injury to the system. But where copious depletion has been neglected in the forming stages of our fevers, and dangerous and extensive determinations take place, large doses of calomel may be employed with safety and advantage. This subject occupied my thoughts at an early period of my professional career, and the above is stated as the result of my experience, in public and private practice for seven or eight years." Y.

November, 1839.

SURGICAL ANATOMY AND OPERATIVE SURGERY.

Professor Gross is engaged in preparing a work on these subjects, which will comprise the anatomy of those parts of the body which are the chief seats of surgical operations, with an account of the most approved methods of performing them; to be illustrated with colored engravings and numerous wood cuts. It will be comprised in one volume, octavo, of about six hundred pages, and put to press early next spring.

We are happy to know that the Elements of Pathological Anatomy of this gentleman, meet with the approval of the profession wherever the work is disseminated.

We shall give a short analytical notice of it in an early number of the Journal. D.

BOSTON MEDICAL AND SURGICAL JOURNAL—PROFESSOR GROSS.

Our able and respected contemporary, in noticing the appointment of Dr. Gross to the chair of Surgery in the Medical Institute of Louisville, indulges in a remark which shows that the editor has been prejudiced by a one-sided report of the circumstances which brought about the resignation of the late Professor of Surgery. The editor of the Boston Medical and Surgical Journal, we are sure, would not willingly be instrumental in propagating a false impression with regard to his brethren. We assure him that he has been misled, and that, if he will inform himself as to the facts of the case, he will find no cause for the offensive reflection contained in the following notice:

"*Dr. Gross.*—It has been officially announced that Samuel D. Gross, M. D., was elected, at a late meeting of the trustees, professor of Surgery in the Louisville Medical Institute, to the chair vacated by the resignation of Dr. Flint. A personal acquaintance with Dr. Gross, together with an intimate knowledge of his writings, constrain us to say that the Louisville School has been exceedingly fortunate in securing this gentleman's sevices. May he never be assailed by the spirit of envy, or brow-beaten by those who suppose that talents of a high order are dangerous to the weal of those less gifted. Through the pages of his great work on Pathological Anatomy, now circulating through the land, those who are curious to know the claims of Dr. Gross to the confidence of those who control the destiny of the Louisville Institute, will find ample evidence of his fitness for the station to which he has been unanimously called." Y.